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AN ANALYTICAL REVIEW OF THE MANAGEMENT OF MODIFICATION FUNDS IN--ETC(U)
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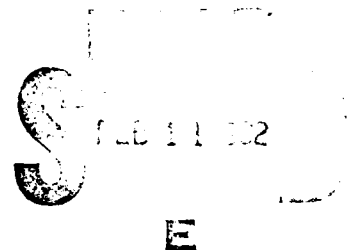
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NAVAL POSTGRADUATE SCHOOL

Monterey, California



THESIS

AN ANALYTICAL REVIEW OF THE MANAGEMENT OF
MODIFICATION FUNDS IN THE NAVAL AVIATION COMMUNITY

by

Lonsdale Clifford Mitchell

March 1981

Thesis Advisor:

R. A. Bobulinski

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An Analytical Review of the Management of
Modification Funds in the Naval Aviation Community

by

Lonsdale Clifford Mitchell
Lieutenant Commander, Supply Corps, United States Navy
B.A., Hanover College, 1970

Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

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ABSTRACT

This thesis reviews the organizational and managerial structures associated with the United States Navy's fiscal management of the modification of aircraft programs. The review is utilized to highlight the problems associated with the expenditure of appropriated funds in support of the modification effort. After reviewing the organizational, functional and structural areas that support the modification program, five areas are identified for corrective action and analysis. These are: a) inadequate control of funds, b) funding is approved too early, c) temporary reprogramming tends to become permanent, d) lack of understanding by the item managers, and e) inadequate program feedback. Several recommendations are made to improve the quality of funds management in the modification process. Among these recommendations were actions to improve funds control through "fencing" mechanisms, segregation of modification follow-on funds from replenishment funding, and to consciously reduce front-end funding of modification programs.

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TABLE OF ABBREVIATIONS AND ACRONYMS

A-3	Skywarrior Aircraft
A-4	Skyhawk Aircraft
ACCB	Aviation Configuration Control Board
ADM	Admiral
AIR-01	Deputy NAVAIR and Projects Director
AIR-102	Aircraft Modification Management Division, NAVAIR
AIR-04	Assistant Commander, Logistics and Fleet Support, NAVAIR
AIR-410	Logistics Management Division, NAVAIR
AIR-411	Maintenance Policy and Engineering Division, NAVAIR
AIR-412	Supply Policy and Management Division, NAVAIR
AIR-413	Weapons Training Division, NAVAIR
AIR-417	Ground Support Equipment Management Division, NAVAIR
AIR-08	Comptroller, NAVAIR
AIR-805	Procurement Budget Division, NAVAIR
APC	Air Project Coordinator
APML	Assistant Program Manager for Logistics
APN	Aircraft Procurement, Navy
ASO	Aviation Supply Office
BA	Budget Activity
CA	Configuration Audit
CC	Configuration Control
CCB	Configuration Control Board

CFA	Cognizant Field Activity
CI	Configuration Identification
CILOP	Conversion in Lieu of Procurement
CM	Configuration Management
CNO	Chief of Naval Operations
CSA	Configuration Status Accounting
DCN	Design Change Notice
DCNO	Deputy Chief of Naval Operations
DOD	Department of Defense
ECP	Engineering Change Proposal
ERA-3B	Electronic/Reconnaissance Configuration, Skywarrior Aircraft
F-4	Phantom Aircraft
F-8	Crusader Aircraft
F-14	Tomcat Aircraft
GSE	Ground Support Equipment
ILS	Integrated Logistic Support
ILSMT	Integrated Logistic Support Management Team
IM	Item Manager
LLT	Long Lead Time
LM	Logistics Manager
LSA	Logistics Support Analysis
MSD	Material Support Date
NALC	Naval Aviation Logistics Center
NATSF	Naval Aviation Technical Services Facility
NAVAIR	Naval Air Systems Command
NAVCOMP	Office of the Comptroller of the Navy
NAVMAT	Naval Material Command

NAVSUP	Naval Supply Systems Command
OMB	Office of Management and Budget
OP-50	Aviation Plans and Requirements Division, DCNO
OP-501	Program and Budget Branch, DCNO
OP-506	Aircraft Weapons Requirements Branch, DCNO
OP-508	Aviation Plans Branch, DCNO
OSD	Office of the Secretary of Defense
OSIP	Operational and Safety Improvement Program
PM	Program Manager
POM	Program Objectives Memorandum
PPBS	Planning, Programming and Budgeting System
PRS	Provisioning Requirements Statement
RA-3B	Reconnaissance Configuration, Skywarrior Aircraft
RADM	Rear Admiral
SDLM	Standard Depot Level Maintenance
SICR	Supply Item Change Record
SELP	Service Life Extension Program
SML	Support Material List
SSR	Supply Support Request
TPOM	Tentative Program Objectives Memorandum
VADM	Vice Admiral
WSM	Weapon System Manager

I. INTRODUCTION

A. BACKGROUND AND OVERVIEW OF THE MODIFICATION IN LIEU OF PROCUREMENT CONCEPT

From the earliest beginnings of an organized military, weaponry of the armed forces have been modified, and some form of documentation maintained. As technology has advanced and the complexity of weapon systems has increased, the modification and documentation requirements have increased [Ref. 1:1].

During a recent seminar at the Naval Postgraduate School, Vice Admiral (VADM) Wesley L. McDonald, United States Navy (USN), Deputy Chief of Naval Operations, Air Warfare (DCNO-AIR), pointed out that the primary factor associated with the increase in modifications and the resulting documentation was aligned to the affordability concept of developing and procuring new weapon systems. Within the limited resources provided to the USN, the only way to maintain the current posture of air defense was to procure new aircraft and to modify those in the inventory to the "state of the art". By modifying and modernizing existing weapon systems, a significant overall cost savings can be generated. However, VADM McDonald also pointed out the reality of this process; a point in time is reached where modification can no longer accommodate the technological advances and at the same time counter the threat imposed by the enemy [Ref. 2].

The modification of naval aircraft has become important from a management standpoint, as well as a readiness standpoint, as the services place greater emphasis on modernizing and upgrading current inventory weapon systems in lieu of procurement. Two primary examples of this philosophy are evidenced by the A-3 Sky Warrior and F-4 Phantom weapon systems, which

were introduced into fleet use in 1952 and 1956 respectively. Through a series of major modifications and service life extension programs, these two weapon systems have been maintained as viable fleet assets long past their original expected service life. Furthermore, with the advent of the mini-carrier, as discussed by VADM McDonald, the prospect of these two types of aircraft as well as the F-8 Crusader and A-4 Skyhawk remaining in the inventory in the future should be anticipated by those tasked to support them [Ref. 2].

Additional credibility is given to this prospect by both the Secretary of the Navy (SECNAV) and the Chief of Naval Operations (CNO). During testimony at the hearings before a Subcommittee of the Committee on Appropriations, House of Representatives, concerning the Department of Defense (DOD) appropriations for 1980, then SECNAV W. Graham Claytor, Jr. specifically addressed the area of affordability and modernization. In part he stated:

"... Within modernization, we must decide whether to upgrade or replace, how much and what kind of research and development, and what quality and quantity of new forces and weapons to buy... Our biggest problem, as you all certainly know, has been in our procurement quantities. We simply have not been able to buy enough ships and aircraft to replace those lost from the fleet through retirement, and in the case of aircraft, attrition... Ship and aircraft procurements in this budget, and in those we expect for the next few years, are not adequate, if extended into the future, to sustain even our present depressed force levels. ... Examples of what is being done include the Service Life Extension Programs (SLEPs) which are avoiding much more costly replacement of many ships and aircraft... These are not new ideas, of course; they have always been part of our planning, but under present Defense acquisition policy, and the management directives we have issued to implement it, they will certainly receive renewed emphasis [Ref. 3:7-8].

The CNO, Admiral (ADM) Thomas B. Hayward, USN, pressed the increased need for awareness of the modification process during his testimony before the same subcommittee. His testimony regarding the need for modernization stated:

"... Three distinct aspects of modernization which interact with one another must be appreciated if the demands of fiscal discipline are to be applied intelligently. First, because we have a large investment in existing ships, aircraft, and weapon systems, and because major investments must be made to maintain and improve them, the Navy tends to change in an evolutionary manner. Second, we must invest in opportunities. These may be technological opportunities that increase overall capabilities, or they may be investments made to capitalize on opportunities offered by our potential opponent's unique characteristics and vulnerabilities. Third, because the U.S. Navy force structure is both long-lived and subject to block obsolescence, we need to predict long-range problems now in order to develop adequately the desired capabilities for our future force structure [Ref. 4:31].

As evidenced by the statements of VADM McDonald, Secretary Claytor, and ADM Hayward, the management of funds associated with the modification process has become more important to the Navy today, relative to the overall availability of technologically advanced, viable weapon systems. The high levels of review necessary to approve and implement changes to weapon systems bears this point out.

There are numerous instructions regarding controlling the changes and configuration of Naval aircraft. These are required to insure that modifications are done in a consistent manner, that they are technologically advancing the weapon system, and that they meet the safety of flight requirements. However, this author's review has shown that no guidance exists as to the actual management of the funds associated with the modification process. In this author's opinion, this condition has led to tight control in the engineering aspects of modification but limited or nonexistent control in the logistic and fiscal side.

B. PROBLEM DEFINITION

The author's preliminary research indicated that the lack of clearcut guidance in the administering of the funds associated with the modification process has caused the following problems in the accomplishment of various programs:

1. Modification not accomplished on a timely basis,
2. Modification funds appropriated, but program not accomplished,
3. Modification program accomplished but not logistically supported,
4. Modification funds appropriated, but spend on other than the designated aircraft or system, and
5. Modification funds appropriated, but returned to the Naval Air Systems Command (NAVAIR), since no definitized requirement existed.

In light of the magnitude of the funds appropriated for the modification process (\$1.7 billion in 1980 [Ref. 5:94]) the above mentioned problems are unacceptable if the Navy is to maintain an air defense posture capable of meeting the threat from its opponents. The major questions that arise from this are how are modification funds managed within the Navy? What are the systems that exist to insure the proper administration and utilization of modification funds? Why is the management of modification funds different from other funds appropriated to the USN? Who is responsible for the management of modification funds and how are modification fund requirements determined? What can be done to strengthen the management of modification funds? These are the general problem areas this thesis will address.

C. PURPOSE AND OBJECTIVE

The purpose of this thesis is to analytically review the processes that comprise the modification information system, in an attempt to see if any improvements can be made. The main objective is to provide recommendations for better management control over the limited modification funds assigned to various aviation programs. To do this, the problems associated with the administration of modification funds will be analyzed by contrasting the flow of documentation and funds as a function of USN policy with actual practices. A secondary objective is to provide a guide for the personnel tasked to administer modification funds, so that additional direction can be provided and better control gained over the modification funds assigned to approved projects. The author's premise is that increased emphasis on the management of funds should lead to improved timeliness of modifications, adequate support of the modified weapon system, and better visibility and feedback on the usage of assigned funds. The scope of these objectives will be limited primarily to the Aircraft Procurement, Navy (APN) funds administered by the Aviation Supply Office (ASO) in conjunction with their efforts as an implementing activity for NAVAIR.

D. RESEARCH APPROACH AND METHODOLOGY

The research is directed at the Navy's out-of-production aircraft, which receive in-service modifications at the Naval Air Rework Facilities (NARF). However, problems encountered on these type aircraft can be basically the same as those in production and those that receive rework at commercial contractors.

The research is divided into four main areas:

1. Literature search,
2. Data collection, including review of actual modification programs, planning documents, and progress reports,
3. Interviews with cognizant personnel at various weapon systems management activities, and
4. Correlation of the data obtained into a format that presents the problems encountered in the modification process and analysis of the problems so that management can correct the deficiencies.

This research is supplemented by the author's personal experience on two aircraft programs; one, an in-production system managed by a Program Manager (PM) at NAVAIR, and the other, an out-of-production aircraft field, managed by a Weapon Systems Manager (WSM) at a NARF. It is the author's opinion that the problems encountered by these two different management organizations, in the area of modification management, are similar and can be used together to make generalized recommendations for improvement. The intent is to piece together the various portions of the modification process, covering the managing organization personnel, the formulation and implementation of modification programs, the funding situation and problems, and then to develop guidelines along which improvements can be made to the process.

E. THESIS ORGANIZATION

The first chapter of the thesis briefly introduces the reader to the concept of modification management and why it is necessary that control of the funds associated with it must be attained, the author's objectives and limited scope, research approach and methodology.

Chapter II discusses the background of modification management with specific emphasis on Configuration Management (CM) and the Integrated Logistics Support (ILS) interface.

Chapter III discusses the driving forces behind the modification program with a detailed view of the Operational Safety Improvement Program (OSIP) and the Engineering Change Proposal (ECP) process in conjunction with the flow of funds in the modification effort.

Chapter IV is an analysis of the policy and procedures utilized by the ASO in the administration of modification funds as a function of the concepts presented in Chapters II and III. During this analysis, actual data from a current modification program underway in the USN will be used as a representative model.

In Chapter V the author summarizes the findings and makes recommendations for improvements to the modification management concept. Additionally, the author makes recommendations for areas where further analysis could be performed to possibly improve the modification management process.

II. MODIFICATION MANAGEMENT

A. INTRODUCTION

Chapter II will provide a discussion of the concepts necessary to promote effective modification management within the Program Manager (PM) and Weapon Systems Manager (WSM) organizations. The discussion will concentrate on the processes of Configuration Management (CM) and Integrated Logistic Support (ILS) interface necessary to document and accomplish the implementation of approved modifications to aviation weapon systems. The discussion of CM will highlight the important facets of gaining early-on control of the engineering ramifications in order to allow for adequate support from the ILS function. The information presented is an amalgamation of concepts discussed in various manuals, instructions, texts, and articles regarding the subject of modification management and the importance of CM and ILS to that process. The author's prior experience will be integrated into the presentation in an effort to provide further insight to the importance of the processes.

B. BACKGROUND

Modification, as defined by Webster's Dictionary, is:

"... the making of a limited change in something; to make basic or fundamental changes in, often to give a new orientation to or to serve a new end; a change in something caused by external factors" [Ref. 6:733].

As noted in Chapter I, the current trend within the Department of Defense (DOD) is toward longer operating life cycles for weapon systems by increased use of the modification and modernization programs being

substituted for new procurement. This point was driven home by VADM McDonald when he stressed the fact that the average age of operational aircraft in the Navy inventory had risen from 8 years to 12 years during the time span from 1976 to 1980, even though the F-14 Tomcat was being procured in significant numbers to replace aging F-4 Phantom aircraft [Ref. 2]. This philosophical change has pushed the modification of weapon systems to the forefront of the United States Navy's (USN) PM's and WSM's attention, and has made the processes of CM and ILS a necessity for the continued operations of almost every weapon system in the USN inventory. Management of these changes or modifications is necessary to establish that considerations such as safety, operational, and reliability and maintainability programs are budgeted to ensure a ready and responsive fleet [Ref. 5:94].

Coupled with the extensive growth and use of modification and modernization programs has been a growth in the backlog of unincorporated changes, which has a detrimental impact on the limited resources assigned to the USN on various programs to complete approved modification programs [Ref. 7:iii]. In addition to the monetary cost, this backlog is costly in the terms of reduced operational capability while aircraft await the incorporation of modification changes. Reductions in capability result from:

1. A significant time lag between the identification of modification requirements and implementation of the modification action, which necessitates emergency procedures such as "Quick Mod" (an accelerated method of arriving at quick fixes) and hasty procurement of unproven modification kits. This is most detrimental to the orderly documentation of configuration status accounting and lends itself to fragmented logistic support [Ref. 7:i].
2. Downtime for systems while modifications are being performed, or worse, downtime while corrective action is being taken to correct new deficiencies caused by modifications [Ref. 1:3].

3. Large backlogs of required modifications which remain unfunded for extensive periods of time due to lack of budget priority [Ref. 7:i].
4. Difficulty in providing logistic support due to numerous configurations of assets during modification compliance, limited turn-around stocks of commodity end-items, and improperly identified assets resulting from breakdowns in configuration status accounting [Ref. 1:4].

To deal with these problems, an understanding of the organizational concepts and purposes of CM and the ILS interface is required.

C. CONFIGURATION MANAGEMENT (CM)

The function of CM has long been performed in the development and production of weapon systems as well as in the modification of these systems [Ref. 8:1]. Thus, CM is a process that encompasses a system throughout its entire life cycle, i.e., the time span as a system evolves from concept formulation to engineering development, then into production, and finally during the operational life. As a system evolves through its life cycle, its physical and functional characteristics also evolve. Modifications are continually proposed and implemented to achieve a variety of goals such as improved performance, to correct deficiencies in systems design, to reduce weight, improve reliability and maintainability, and to update the system to "state-of-the-art". The discipline of CM today has been developed to manage the evolution of these changes in a system during its life, so that accurate, up-to-date status of modifications can be obtained and to preclude the approval of unnecessary or marginal changes.

CM, as defined by the Naval Air Systems Command (NAVAIR) Configuration Management Manual, NAVAIR Instruction 4130.1A, dated 29 September, 1980, is:

"A discipline applying technical and administrative direction and surveillance to (1) identify and document the functional and physical characteristics of a configuration item, (2) control changes to those characteristics, and (3) record and report change processing and implementation status [Ref. 9:A-2].

In essence, this definition requires specific identification of the item, for which configuration management will be applied, to be placed on the contract, whether it is for procurement or modification, and further requires that any changes to the item must be with government concurrence before any change can be made. Additionally, any change or modification must be summarized to the government in writing assessing the total impact of the change, with particular regard as to the logistic support of the system. If the change is approved, it is the PM's/WSM's responsibility, as the government's representative, to account for the implementation of the change in all affected areas, i.e., the hardware, spare/repair parts, technical manuals, publications, trainers, etc. The purpose of CM, at the bottom line, is to insure the continuing logistics supportability of systems in the government inventory [Ref. 10:21]. Figure II-1 shows the major facets and interfaces associated with CM that the PM/WSM must understand and control in order to provide effective modification management.

The processes that allow the PM/WSM to implement CM concentrate on three basic areas: Configuration Identification (CI); Configuration Control (CC), and Configuration Status Accounting (CSA). These three areas will be briefly discussed in the following paragraphs.

1. Configuration Identification (CI)

CI includes the specifications and their associated diagrams, flowcharts, drawings, parts lists, etc., that are used to describe the functional and physical characteristics of the configuration item. The

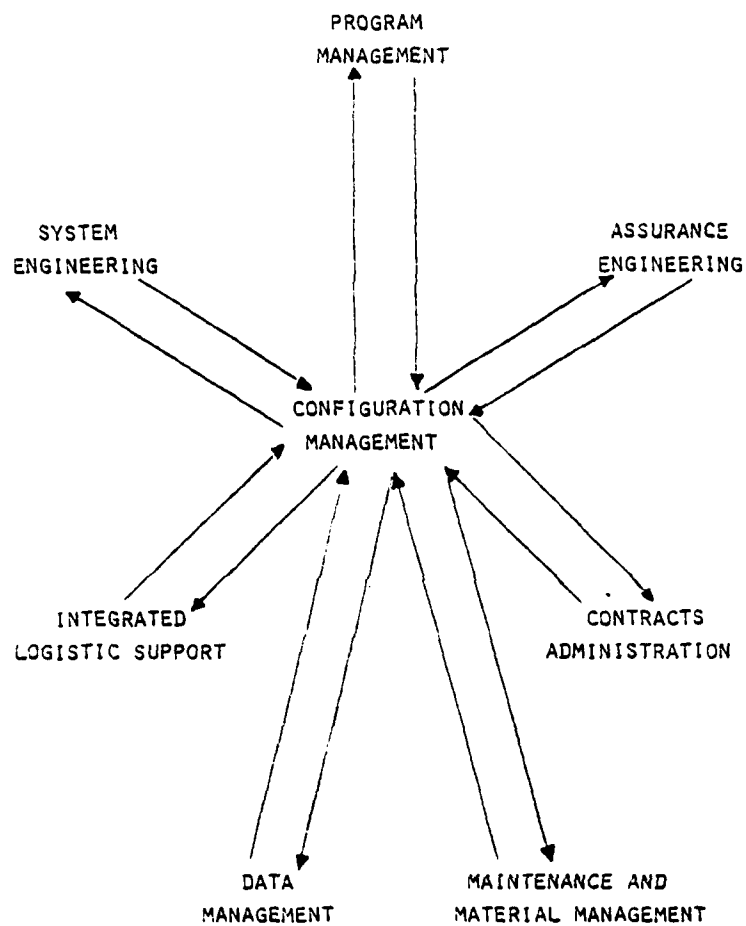


Figure II-1. Configuration Management Interface with Other Management Systems

process of controlling the CI requires the PM/WSM to establish baselines for various portions of the documentation at appropriate milestones in the program [Ref. 10:22]. Initially, the CI begins with the configuration item, which is an aggregation of hardware/computer programs or any of its discrete portions which satisfies an end-use function and is designated by the government for CM. Any item required for logistic support and designated for separate procurement is a configuration item [Ref. 9:A-1]. The principal tool utilized in establishing the CI is the configuration audit (CA). The CA is used at predetermined points in the life cycle of the program to verify such items as design specifications, drawings and manuals against the physical item to insure their congruence [Ref. 11:22].

As defined above, CM is the concept of technical baseline management. The baseline serves as the starting point and departure point for any changes or modifications that are made. Recalling that the definition of CM is first concerned with the identification and documentation of the functional and physical characteristics of the configuration item, it becomes necessary to distinguish between a functional and physical baseline.

The functional baseline is the initially approved baseline and is defined by preliminary systems specifications. Essentially, it describes the required technical characteristics during the conceptual phase based on system performance and design requirements. During the validation phase, the system's specifications are expanded, and refined development specifications are prepared. These development specifications define the allocated baseline [Ref. 1:22].

The allocated baseline is used to document the functional requirements of each configuration item [Ref. 10:23]. It is defined by the development specifications and marks the beginning of the full-scale development phase during acquisition or modification. The allocated baseline is functional throughout the development phase and is the basis for the contractor's design of the configuration item.

The product baseline is established at the beginning of the production phase and is used to document the physical design that meets the requirements of the allocated baseline [Ref. 10:23]. It is defined by the configuration item product specifications based on the detailed design or "build to" requirements [Ref. 1:22]. Product baselines are established for each configuration item as it successfully completes qualification testing and design/control verification. Quality assurance testing is included in the product specification and must be successfully accomplished prior to government acceptance of the production item. Figures II-2 and II-3 represent the life cycle of major systems acquisition or modification, CM phasing and the flow of base-lines within the CM process of an item evolves through its life cycle.

2. Configuration Control (CC)

The second major area of CM, and in this author's opinion probably the most visible aspect of it, is configuration control. CC is primarily related to the second facet of the definition of CM; the control of changes to the characteristics as defined by the CI documentation. CC is the systematic evaluation, coordination, approval or disapproval and implementation of all approved changes in the configuration of a configuration item after formal establishment of its CI [Ref. 7:A-1]. In practice, it is the process that guarantees the underlying reliability and

LIFE CYCLE OF MAJOR SYSTEMS ACQUISITION

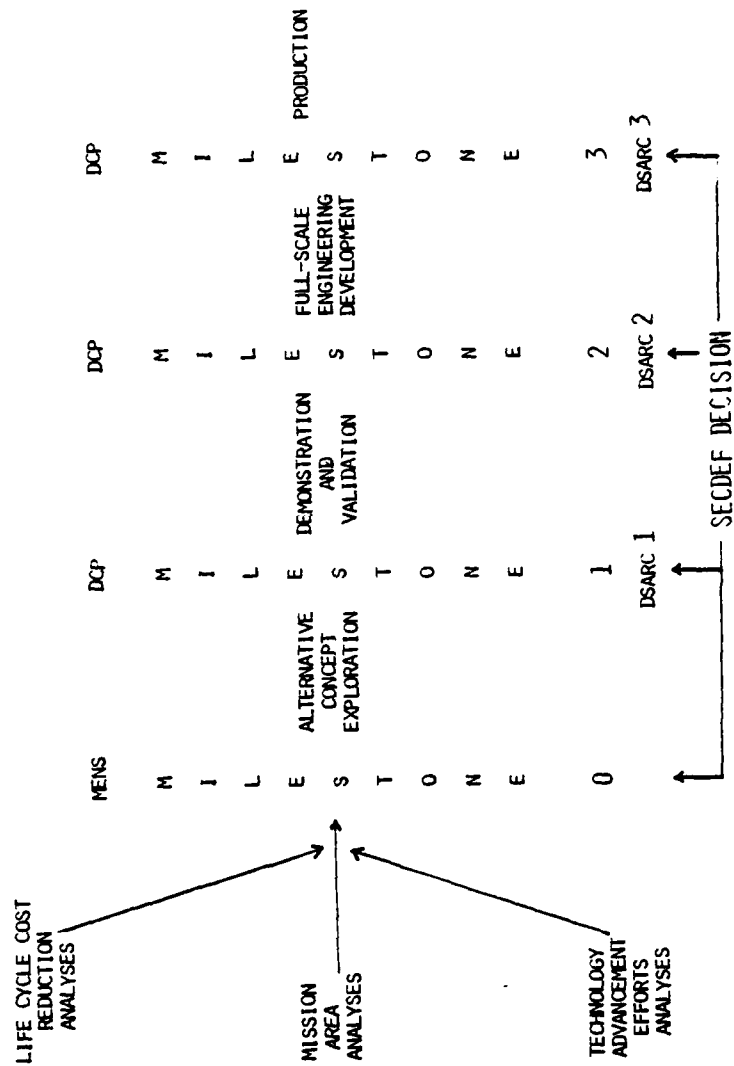


Figure II-2. Life Cycle of Major Systems Acquisition

CONFIGURATION MANAGEMENT (HARDWARE)

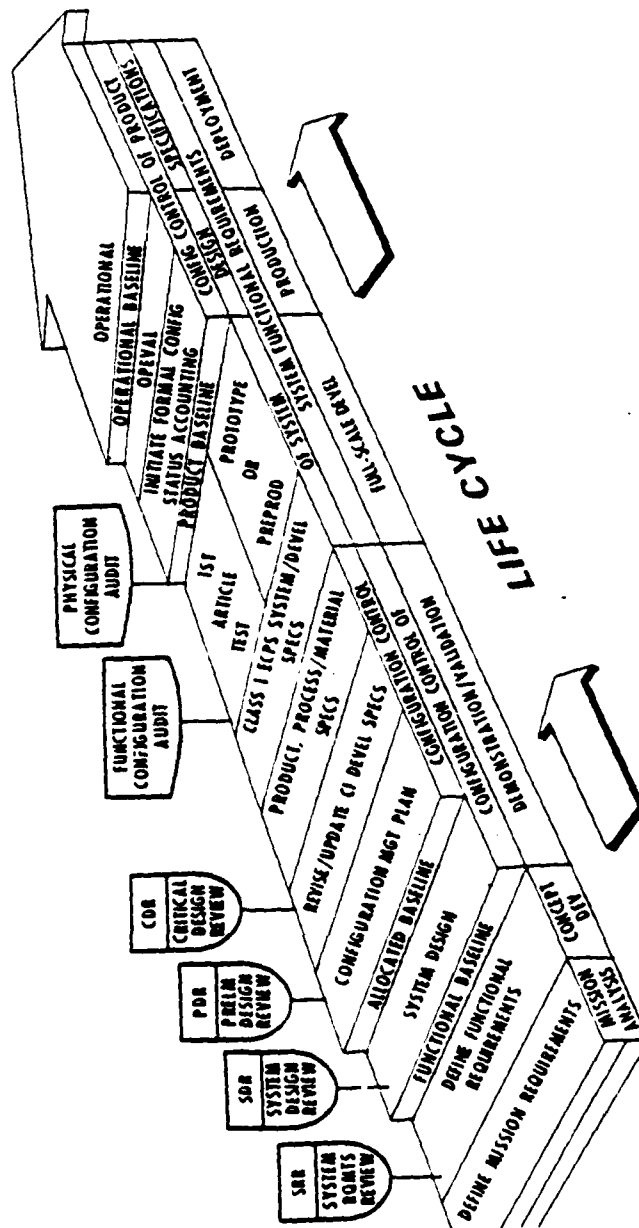


Figure II-3. Configuration Management Baseline Phasing

maintainability of the configuration item during the operational portion of the life cycle of the item. This area is of prime importance to the PM/WSM in the modification management process.

Program/Weapon System management is often referred to, by those who are tasked to support a system, as the management of changes, which it certainly is in the most global definition. However, all too often this broad interpretation of management of change has not properly included change management. In this more limited context, change management is one of the major functions of modification management and refers to the control of engineering changes, or ECPs as they are commonly known [Ref. 12:1]. CC involves the use of ECPs and requests for deviations and waivers of technical requirements. Its objective is to insure the smooth functioning of the ECP preparation, evaluation, approval, and implementation [Ref. 13:11], and to preclude marginal or insignificant modifications [Ref. 1:47]. Specifically, the change criteria are defined as those necessary or beneficial changes required to:

- a. Correct deficiencies,
- b. Satisfy changes in operational or logistic support requirements,
- c. Effect substantial life cycle cost savings, or
- d. Prevent or allow desired slippages in an approved modification schedule [Ref. 14:3-1].

The process by which ECPs are established and approved will be discussed in Chapter III in conjunction with the Operational Safety Improvement Program (OSIP) and the funds flow for the modification process.

3. Configuration Status Accounting (CSA)

CSA is the third major area of concern in CM. It is the recording and reporting of the information that is needed to manage the configuration effectively, including a listing of the approved CI, the status of proposed changes to the configuration, and the implementation status of approved changes [Ref. 15:18]. The objective of CSA is to provide the user with accurate up-to-date information on the configuration status of all configuration items [Ref. 11:21]. The CSA technique establishes a record system which enables the user to determine the following information:

- a. Where an item is located or installed,
- b. The identification of selected items by serial number or bureau number in the case of aircraft, or
- c. The current modification status [Ref. 13:13].

The Navy CSA system consists of four subsystems to accommodate its diverse inventory of weapon systems. This subsystem approach allows the entire inventory subject to CM to be included in an economical manner that will furnish the depth of data required [Ref. 1:77], so that the PM/WSM can accurately gauge the status of change/modification implementation. The four subsystems are Advanced, Standard, Installed, and Bulk. The Advanced subsystem accounts for the configuration status of selected components and support equipment by serial number and location. The Standard subsystem records the applicability and whether a change has or has not been incorporated by specific unit serial number or bureau number. The Installed Systems subsystem is a method by which the status of selected systems within a weapon can be determined. The Bulk Accounting

subsystem provides a summary of CSA for the majority of inventory components that do not require accounting under the other three subsystems [Ref. 1:78-83].

The continuous processing aspect of the CSA system allows the PM/WSM to know at what point the system status is in regard to proposed, approved, and implemented changes/modifications. While CSA is often perceived by the PM/WSM personnel as a group of very expensive and voluminous reports used to track the implementation status of approved changes, in actuality it is a management process vital to the assessment of modification management programs, and the reports are the means by which the PM/WSM insures that the process is accomplished and properly documented.

D. INTEGRATED LOGISTIC SUPPORT (ILS) INTERFACE

As stated previously, the control of changes to an item or system is necessary to insure that the system meets its specified performance and technical parameters. The rigorous review of ECPs within the USN insures that all proposed changes are given a thorough review and are considered for implementation. It also provides for the involvement of all functional areas affected by the change proposal to review the impact of the change and to provide input data to support approval or disapproval as depicted by Figure II-1. Additionally, CM provides the PM/WSM with a method by which the status of implementation for approved changes and other adjustments to the various baselines can be tracked. The purpose of this is that for the PM/WSM to have control, he or she must establish CM processes from the very beginning of the project, whether it is an acquisition or modification program. To gain this control, the PM/WSM must establish an adequate base in the ILS. As stated in the Naval Material

Command (NAVMAT) Instruction 4000.2B, dated 27 June 1975, dealing with Integrated Logistic Support Policy and Planning, the interface between CM and ILS is essential. In part it says:

"... configuration management requires comprehensive control procedures to be exercised over configuration throughout a system's life cycle. It should be apparent that hardware configuration changes create needs (and costs) for changes in logistic support. Therefore, it is important that configuration control procedures include provisions for integrated support planning [Ref. 16:37].

The ILS personnel, in concert with the CM personnel, must tailor the requirements for modification management to be consistent with the size, scope, stage of life cycle, nature, and complexity of the system [Ref. 15:10].

ILS, as defined by NAVMAT Instruction 4000.2B, is:

"... a process which identifies, in a systematic and orderly manner, the functions which must be performed in support of operation and maintenance and the resources needed to accomplish those functions. The process also requires that hardware and system design be reviewed with a view toward establishing the hardware design and configuration which reduces, to the maximum practicable extent, the logistic support burden placed on the operating forces [Ref. 16:2].

NAVAIR Instruction 4130.1A is more explicit in its definition of the ILS concept. In its definition of the concept of the interface between ILS and CM, it defines the ILS requirement as:

"... a composite of the elements necessary to assure the effective and economical support of a system or equipment at all levels of maintenance for its programmed life cycle. The elements include all resources necessary to maintain and operate an equipment or weapons system, and are categorized as follows: (1) planned maintenance; (2) logistic support personnel; (3) technical logistic data and information; (4) support and equipment, (5) spares and repair parts; (6) facilities, and (7) contract maintenance [Ref. 9:A-5].

The thrust of both of these definitions is the same. ILS is the process of having the right thing in the right amount to the right place at the right time.

To enhance the probability of accomplishment in a large modification program or new system acquisition, both the ILS and CM personnel should remain cognizant of the functional and physical baselines from the very start. By so doing, the status and ramifications associated with changes can be monitored and schedules and resources shifted to emerging requirements. In this author's opinion, failure to identify the baseline configuration and to control/monitor the changes to that baseline are an open invitation for the loss of control in the areas of cost, schedule, and performance.

ILS and CM are the cores for insuring that the configuration of an equipment or weapon system is derived during development, determined during design, established during production, and maintained during the operational life [Ref. 13:3]. It is the art of organizing and controlling, planning, design development, and hardware operations by means of uniform configuration control, and identification and status accounting of the product [Ref. 13:7]. The PM/WSM, by incorporating effective ILS and CM procedures, can insure that he or she is able to define and verify the configuration items and logistics support elements that are to be procured, control the changes to the characteristics, monitor the implementation of changes, and track the configuration of all units in the inventory under his or her cognizance [Ref. 10:28]. The author contends that by so doing, the PM/WSM will vastly improve the chances of bringing the project to fruition at the desired cost, schedule, and level of performance.

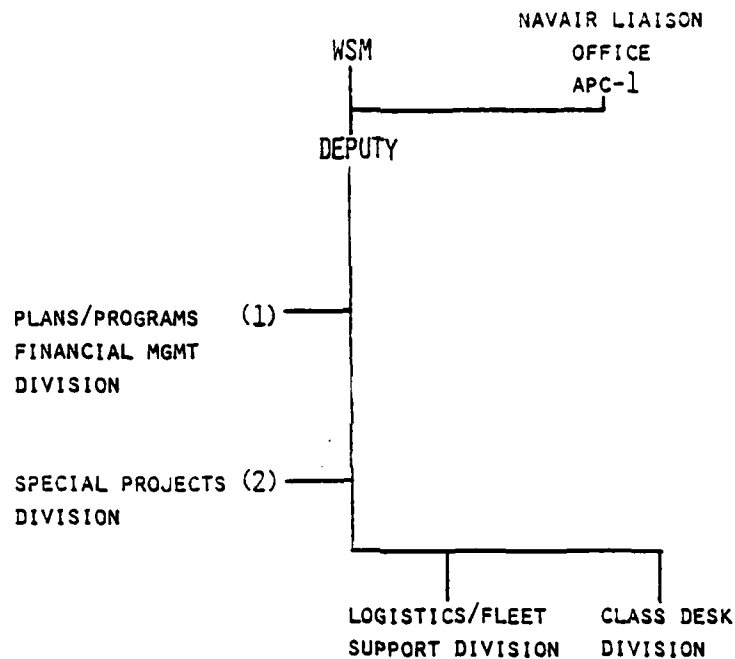
The organizational structure that is used to support the PM/WSM in the areas of ILS and CM are basically the same for both in-production and out-of-production aircraft. Figure II-4 is a representative model of the organization of a typical WSM office located at a Naval Air Rework Facility (NARF). Figure II-5 is a further breakdown of this structure, showing the special responsibilities of the Class Desk division, which includes CM, and the Logistics/Fleet Support division, which includes the function of ILS.

Like the PM/WSM, the ILS and CM managers operate within a huge matrix of organizations. The following traits, therefore, are essential for the personnel assigned to these positions:

1. Have an in-depth knowledge of the Navy logistics systems, i.e., supply, maintenance, training, ground support, and publications,
2. Be an effective organizer,
3. Be able to communicate with other people and inspire their dedication to hard work,
4. Be confident, for the job will require interaction with people at all levels of the government and contractors,
5. Have analytical ability and be at ease with work that involves much detail, and
6. Be patient and poised, but aggressive and innovative when required [Ref. 17:31].

Figures II-6, II-7, and II-8 give a detailed overview of the requirements of the WSM organization. Figure II-9 is a representative example of the interfaces that the PM/WSM, ILS and CM personnel must deal with on a continual basis for an effective modification management effort. This author feels strongly that the interface of the ILS and CM personnel is important to the success or failure of a modification program.

BASIC WSM ORGANIZATION



NOTE: (1) WHEN ASSIGNED SYSTEM IS STILL IN PRODUCTION OR
CHANGE ACTIVITY EXCEEDS FIVE MILLION DOLLARS

(2) WHEN IN THE AREAS OF EW AND WEAPONS DELIVERY
AIRCRAFT MODIFICATION REQUIRES EXTRAORDINARY
MANAGEMENT/COORDINATION

Figure II-4. Basic Weapon System Management Organization

WEAPON SYSTEM MANAGEMENT

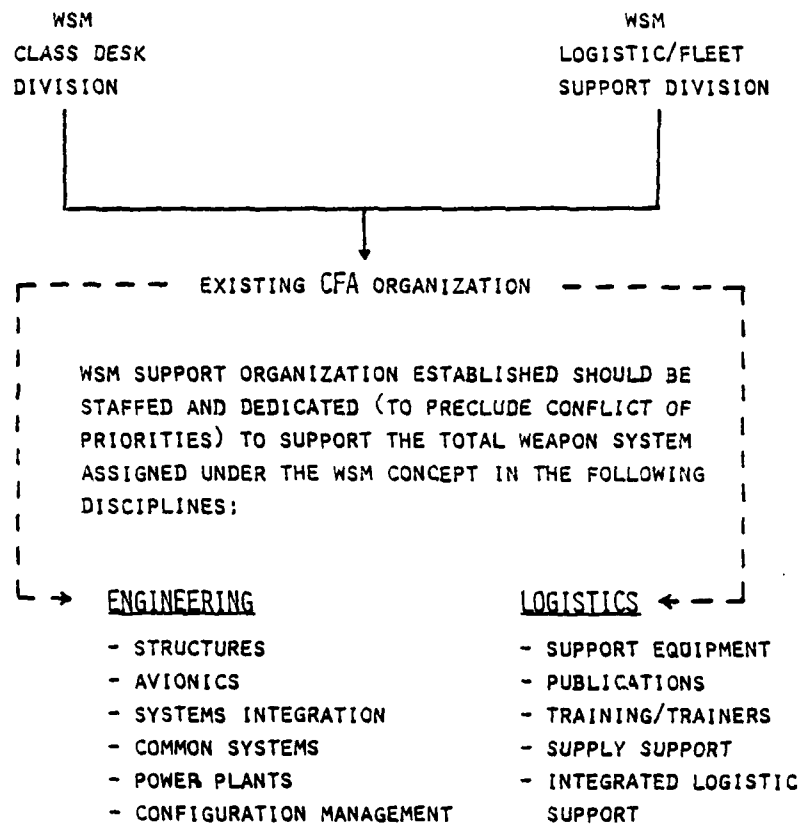


Figure II-5. Weapon System Management

WEAPON SYSTEM MANAGEMENT

DEFINITION:

- A COMPILATION OF PROJECT MANAGEMENT FUNCTIONS PERFORMED AT A FIELD ACTIVITY AFTER A WEAPON SYSTEM HAS TRANSITIONED FROM MANAGEMENT IN A PROJECT MANAGEMENT OFFICE TO A CONTINUATION OF LIFE CYCLE MANAGEMENT IN A WEAPON SYSTEM MANAGEMENT OFFICE.

- RESPONSIBLE FOR TOTAL WEAPON SYSTEM
 - PLANNING
 - BUDGETING
 - MANAGEMENT
 - INTEGRATION OF ENGINEERING
 - MATERIAL ACQUISITION
 - LOGISTIC SUPPORT
 - CONFIGURATION MANAGEMENT

Figure II-6. Weapon System Management Definition

WEAPON SYSTEM MANAGEMENT

POLICY AND PROCEDURES:

- RESPONSIBILITY ASSIGNED ON A TIME-PHASED BASIS
- FINAL TRANSITION AFTER INITIAL DECISION THAT SYSTEM NO LONGER REQUIRES HEADQUARTERS LEVEL MANAGEMENT
- OVERALL TECHNICAL AND MANAGEMENT FUNCTIONS THAT REMAIN WITHIN NAVAIR:
 - PLANNING
 - PROGRAMMING
 - BUDGETING
 - DEPOT AIRCRAFT REWORK CONTROL
 - MANAGEMENT OF MULTIPLE/Common EQUIPMENT AND SUPPORT PROGRAMS

THE COMMANDER, NAVAL AIR SYSTEMS COMMAND RETAINS BASIC RESPONSIBILITY FOR THE SYSTEM, EVEN THOUGH IT HAS BEEN TRANSITIONED TO A FIELD ACTIVITY FOR MANAGEMENT DURING THE REMAINDER OF ITS LIFE CYCLE.

Figure II-7. Weapon System Management Policy and Procedure

WEAPON SYSTEM MANAGEMENT

RESPONSIBILITY/ACCOUNTABILITY:

- THE WSM IS THE PRIMARY EXECUTIVE RESPONSIBLE AND ACCOUNTABLE TO THE NAVAL AIR SYSTEMS COMMAND FOR OVERALL MANAGEMENT OF THE ASSIGNED WEAPON SYSTEM.

- THE WSM WILL HAVE MANAGEMENT RESPONSIBILITIES FOR THE PLANNING AND EXECUTION OF:
 - TOTAL SYSTEM INTEGRATION
 - DESIGN AND ENGINEERING
 - MODIFICATION
 - MAINTENANCE AND REWORK
 - TEST AND EVALUATION
 - CONFIGURATION MANAGEMENT
 - PRODUCTION SUPPORT
 - MATERIAL MANAGMENT
 - CONTRACTING
 - FLEET LOGISTICS SUPPORT

Figure II-8. Weapon System Management
Responsibility/Accountability

WEAPON SYSTEM MANAGEMENT

INTERFACE RELATIONSHIP:

- NAVAL AIR SYSTEMS COMMAND
- NAVAL MATERIAL COMMAND
- OFFICE OF THE SECRETARY OF THE NAVY
- OFFICE OF THE CHIEF OF NAVAL OPERATIONS
- OFFICE OF THE COMMANDANT OF THE MARINE CORPS
- OTHER PROJECT MANAGERS
- OFFICE OF THE SECRETARY OF DEFENSE
- CONGRESS
- GENERAL ACCOUNTING OFFICE
- NAVAL SUPPLY SYSTEMS COMMAND
- INVENTORY CONTROL POINTS
- NAVAL AIR TECHNICAL SERVICES FACILITY
- COGNIZANT FIELD ACTIVITY
- NAVAIR TEST AND EVALUATION ACTIVITIES
- NAVAL AIR ENGINEERING CENTER
- TYPE COMMANDERS
- AIRCRAFT CONTROLLING CUSTODIANS
- NAVAL AIR REWORK FACILITIES
- AIR FORCE
- ARMY
- NAVAL TRAINING AND EQUIPMENT CENTER
- NAVAL AIR MAINTENANCE TRAINING GROUP
- NAVAL AVIATION LOGISTICS CENTER
- NAVY INTERNATIONAL LOGISTICS COORDINATING OFFICE

Figure II-9. Weapon System Management Interface Relationship

E. SUMMARY

In this chapter, an overview of the configuration management and Integrated logistic support requirements necessary to effect a modification program were presented. The importance of gaining early control of a modification program through the conscious effort at configuration management was stressed. In addition, the importance of the documentation was presented as a part of the process.

The initial requirement is to establish the CI, so that adequate baseline information about the program can be determined and tracked as the modification effort moves forward. The CA is utilized in this process to verify that the CI is in accordance with the specifications and parameters designated for the modification plan.

CC is the process that ties the project together through the systematic evaluation of changes to the CI and determination of the necessity of changes to the CI. CC is the direct link to the processes that will be discussed in the next chapter.

CSA is the process by which the USN, as well as the other services, determine the current status of the modification process. The necessity to understand the status for all modifications in process is a principle concern to the PM/WSM organizations, and CSA is the process that can develop the required information.

The ILS information within the PM/WSM organizations allows for the melding of the engineering concepts developed by the configuration management personnel with the support parameters developed by the logistics personnel. The interface of these two disciplines is essential to the effective and efficient completion of modification program, in the author's opinion.

The next chapter will deal with the driving force behind the scene: the Operational Safety Improvement Program (OSIP), Engineering Change Proposal (ECP) processes and the flow of funds into the various commands tasked to provide support in the modification management arena.

III. OPERATIONAL SAFETY IMPROVEMENT PROGRAM, ENGINEERING CHANGE PROPOSALS AND THE FLOW OF FUNDS IN THE MODIFICATION PROCESS

A. INTRODUCTION

This chapter will provide a discussion of the requirements necessary to initiate a modification program and the related flow of funds from the process. The manner by which modifications are proposed, approved, and implemented starts with the Operational Safety Improvement Program (OSIP), which generally equates to the concept formulation stage in the acquisition process. The process then moves to the Engineering Change Proposal (ECP) procedure, which incorporates initial design, demonstration and validation and, ultimately the approval for service use and production installation.

The necessity for these programs was borne out by the Chief of Naval Operations (CNO) ADM Hayward, during testimony to the House of Representatives on the 1980 budget in which he said:

"... Since 1974, the major way the aircraft side of the house has been able to keep up with the requirement is through extending the life of the airplanes. You have seen our CILOP, conversion in lieu of procurement programs, which have allowed us to keep operating attack and fighter airplanes well beyond life spans that we had been accustomed to in the '50s and '60s. We are now flying airplanes that are 15 to 20 years old in a very aggressive air-to-air and air-to-ground role. That has been one of the major ways in which we have attempted to avoid new procurement costs [Ref. 4:141].

During this cycle, the Configuration Management (CM) and Integrated Logistic Support (ILS) personnel must operate in conjunction to insure that the engineering and logistics disciplines interface and integrate the modification process into a useable viable product. Additionally, as the

OSIP/ECP process moves forward, funds are appropriated and expended to support the emerging product. These funds must be properly monitored, tracked, and accounted for in order to insure that they are spent in the most cost/beneficial manner to both the CM and ILS personnel.

This chapter will highlight the important facets of the OSIP procedures, ECP processing requirements, and funds flow in order to allow the reader to gain an understanding of the time, depth, and effort required to prepare, justify, approve, and implement a modification program. Examples from the A-3 Skywarrior and F-4 Phantom Weapon System Management (WSM) offices will be used to provide actual scenarios of the process. The information presented is a combination of the concepts discussed in various instructions, notices, and manuals regarding the modification processing problem.

B. OPERATIONAL SAFETY IMPROVEMENT PROGRAM (OSIP)

The OSIP process is the first step necessary to incorporate a modification in an equipment or system. The function of putting together an OSIP requirement and actually processing the requirement to approval can be a long drawn-out procedure, lasting in excess of two years from the initial input until actual approval to execute the OSIP plan is received.

The origin of the OSIP procedure starts at the Naval Air Systems Command (NAVAIR) with the issuance of NAVAIR Notice 4000; The Operational and Safety Improvement Program, Items for the Aircraft Modification Budget for Fiscal Year 19XX; and submission of (Report Symbol NAVAIR 4000-10). This notice requires the various PM/WSM organizations to submit modification requirements for inclusion in the budget for the fiscal year 19XX plus 2. The purpose of this early identification and submission is to

afford an adequate amount of time for the review of the proposals and to facilitate submission of approved proposals into the Department of Defense (DOD) Programming, Planning, and Budgeting System (PPBS). Appendix A is a copy of the cover letter from the NAVAIR Notice 4000 OSIP submission request for fiscal year 1983.

In order to understand the features of the request, a background in the organizational and financial parameters required for submission is necessary. The following sections will provide a brief overview of the key players in the OSIP process and the financial areas involved.

1. Organizational Authority

Guidance in the preparation of OSIP submissions is received from several levels within the hierarchy of the United States Navy (USN). Starting with the CNO, authority is delegated down to the Deputy Chief of Naval Operations, Air Warfare (DCNO), Code OP-05, who is the CNO's representative for matters concerning aviation programs. Under the DCNO OP-05, there are five divisions. The Aviation Plans and Requirements Division, Code OP-50, is the focal point of the flow of OSIPs within CNO's office. Within OP-50, the three branches: Program and Budget, OP-501; Aircraft/Weapons Requirements, OP-506, and Aviation Plans, OP-508, are the primary sources for OSIP review and approval. Appendix B is a detailed list of the functions of OP-50 and the interaction of the functions of the various branches. Figures III-1 and III-2 are graphic representations of the Office of the CNO and the DCNO for Air Warfare.

Additional direction and guidance at the third echelon level of NAVAIR is received from the Chief of Naval Material (CNM). Since NAVAIR is designated a systems command, it functionally reports to the Naval Material Command (NAVMAT). Figure III-3 illustrates the organizational structure of NAVMAT.

Figure III-4 is the organization chart for NAVAIR showing the program and weapon system management interfaces with the higher levels within the command. The chart indicates that while NAVAIR is designated the overall responsibility for aviation weapon systems, it is still subordinate to, and must be responsive to, the direction and guidance provided by higher level authority.

Within NAVAIR, guidance for the preparation and submission requirements for OSIPs is managed under the cognizance of the Plans and Programs Division, Air-01. Further delegation of this authority is then provided to Air-102 under the auspices of Air-01. As can be seen from Appendix A, Air-102 is the originator within the NAVAIR community of the requirement to submit OSIPs. Additional guidance is contained in the notice from Air-08, Comptroller, on the delineation of funds and uses of funds.

2. Types of Funds

Aviation Procurement, Navy (APN), funds are the procurement account from which funds are authorized to perform the modification programs. Additionally, Operations and Maintenance, Navy (O&M,N) funds are utilized in the process for actual installation of the modifications. The breakdown of the various segments of the APN appropriations is as follows:

- APN-1 Combat Aircraft Procurement
- APN-2 Airlift Aircraft Procurement
- APN-3 Trainer Aircraft Procurement
- APN-4 Other Aircraft Procurement
- APN-5 Modification of Aircraft
- APN-6 Aircraft Spares and Parts
- APN-7 Aircraft Support Equipment and Facilities

Figure III-5 lists the major uses of APN funds in the modification of Naval Aircraft. Table III-1 is the presentation to the House of Representatives on the 1980 Budget for the APN appropriation. As can be seen from this table, \$1.8 billion, or approximately 38 percent of the APN budget, is for modification, spares, and support. 17.5 percent is for modification alone, and while this represents a drop from the 22.5 percent in 1979, it should be remembered from VADM McDonalds' seminar and testimony by the CNO that fewer aircraft are available for modification as the years pass.

As stated in Chapter I, this thesis will focus on the area of APN-6 funds. The purpose for this is that the PM/WSM offices that the author has been associated with and the interviews conducted by the author, all stated that this was the most difficult area in which to gain control over the funds assigned to the modification program.

3. OSIP Submission and Processing

The procedure that initiates the process is the issuance of NAVAIR Notice 4000. This is referred to as the OSIP Call. The notice requests the various PM/WSM organizations to nominate OSIP requirements to NAVAIR, so that they can be reviewed and either approved or disapproved and then included in the budget cycle. Upon receipt of the notice, the PM/WSM offices submit, within a one month time frame, what basically amounts to a shopping list for new programs, to Air-102, the NAVAIR agent tasked with administering the OSIP process. The term "shopping list" is applicable here. In an interview with the F-4 WSM staff, they stated that the submission of 30 OSIP items in one fiscal year was not unusual. They hoped to get at least two or three approved. Those that were disapproved would be reviewed and probably resubmitted in the next year [Ref. 18].

AIRCRAFT PROCUREMENT NAVY
FUNDS
AND USES

APN-1 THROUGH APN-4	-- UTILIZED FOR IN PRODUCTION AIRCRAFT
APN-5	-- MODIFICATIONS TO IN SERVICE AIRCRAFT -- UTILIZED TO PAY FOR NON-RECURRING COSTS ASSOCIATED WITH MODIFICATION -- KIT COSTS -- GOVERNMENT FURNISHED EQUIPMENT -- GROUND SUPPORT EQUIPMENT -- MANUALS -- TRAINING AND CHANGES REQUIRED TO TRAINING DEVICES -- CONTRACTOR INSTALLATION OF CHANGES
APN-6	-- SPARES AND REPAIR PARTS, INCLUDING THOSE REQUIRED FOR THE MODIFICATION PROCESS -- INTERIM SUPPORT
APN-7	-- AIRCRAFT SUPPORT EQUIPMENT AND FACILITIES

Figure III-5. Funds Utilized in the Modification Process

TABLE III-1. AIRCRAFT PROCUREMENT, NAVY (APN) BUDGET
SUBMISSION FOR FISCAL YEAR 1980

AIRCRAFT PROCUREMENT, NAVY (APN) (\$ In Millions)						
	Qty	FY 1979	Qty	FY 1980	Qty	FY 1981
<u>Total</u>	131	\$4358.7	103	\$3967.3	113	\$4714.1
<u>Item</u>						
<u>Combat Aircraft (APN-1)</u>						
A-6E (Intruder)	12	166.3	-	56.7	-	36.7
EA-6B (Prowler)	6	150.1	6	154.1	6	158.3
A-7E (Corsair II)	12	110.4	-	15.0	-	-
F-14A (Tomcat)	36	683.3	24	464.7	24	524.2
F/A-18 (Hornet)	9	429.5	15	574.8	48	1068.2
CH-53E (Super Stallion)	14	168.1	15	156.5	14	145.3
P-3C (Orion)	12	274.8	12	259.6	12	276.6
E-2C (Hawkeye)	6	181.1	6	173.5	6	171.1
ADVANCE PROCUREMENT	-	275.4	-	295.4	-	379.1
<u>Airlift Aircraft (APN-2)</u>						
UC-12B (CEK)	22	27.4	22	26.3	-	.5
C-3B (Skytrain)	1	12.3	-	-	-	-
ADVANCE PROCUREMENT	-	-	-	-	-	35.7
<u>Trainer Aircraft (APN-3)</u>						
T-34C (Mentor)	-	.3	-	2.0	-	-
T-44A	-	.3	-	.6	-	-
<u>Other Aircraft (APN-4)</u>						
EC-130Q	1	31.7	3	96.1	3	76.9
<u>Modification of Aircraft (APN-5)-</u>		382.3	-	781.4	-	321.6
<u>Aircraft Spares and Parts (APN-6)</u>	-	569.2	-	656.6	-	738.3
<u>Aircraft Support Equipment and Facilities (APN-7)</u>	-	294.2	-	254.3	-	291.5

The submissions from the PM/WSM offices are coordinated with the Ground Support Equipment (GSE) personnel at NAVAIR and with the Naval Aviation Logistics Center (NALC) for inclusion of data pertinent to depot installations. However, no attempt is made to interface with the Air-04 Logistics and Fleet Support, or Air-05, Engineering Personnel, at this point in the process. Figures III-6 and III-7 provide an overview of the guidance contained in the notice as to how the programs will be organized and what funds are used to effect the modification.

After receiving all the input in response to the OSIP Call, Air-102 reviews the submissions for proper format and composition and forwards them to the office of the CNO. Within CNO's office, OP-506 is the responsible agent for reviewing the OSIP submissions.

OP-506 is the first place in the process where programs are subjected to disapproval. During the time frame from November 1980 to May 1981, the CNO internal review function is performed. It may or may not be interactive with the PM/WSM organizations, i.e., programs may be given a go/no go designation with no recourse from the PM/WSM or they may be tentatively rejected with allowance for reclama. In any event, those that survive are required to be updated. The final output from this review procedure is the input to the CNO Program Analysis Memorandum (CPAM). The CPAM's are developed to present to the CNO Executive Board (CEB) an overview of the approved Five Year Program. Subsequent to CEB review and decision, the CPAM's form the basis for the Navy Program Objectives Memorandum (POM).

During the time period June 1981 through August 1981, the Office of the Comptroller of the Navy (NAVCMP) conducts the review of the POM, which includes the approved OSIPs from the CNO review. During the NAVCOMPT

NAVAIR NOTICE 4000
GUIDANCE

FROM THE OFFICE OF THE DEPUTY CHIEF OF NAVAL OPERATIONS,
AIRWARFARE (OP-50):

- COSTS IN FY 82 DOLLARS FOR FY 83 AND SUBSEQUENT YEARS
- COMPLETION OF MODIFICATION IN A MAXIMUM OF 5 YEARS
- QUANTITIES TO BE MODIFIED MUST BE IN THE ACTIVE FLEET
- INSTALLATION OF MODIFICATIONS WILL BE IN-HOUSE AND SHOULD BE DONE DURING SDLM TO THE MAXIMUM EXTENT
- COMPONENT MODIFICATIONS WILL BE STRUCTURED TO CONFORM TO THE REWORK SCHEDULE FOR THAT COMPONENT
- ALL MODIFICATION PROGRAMS MUST BE WELL DEFINED AND CAPABLE OF STANDING ALONE
- EMPHASIS IS ON THE ELIMINATION OF CONCURRENCY
- USE OF FIELD TEAMS IS AUTHORIZED TO COMPLETE PROGRAMS

Figure III-6. Guidance Provided by the Chief of Naval Operations for Submission of OSIP Requirements

NAVAIR NOTICE 4000
GUIDANCE

FROM THE OFFICE OF THE COMPTROLLER, NAVAL AIR SYSTEMS
COMMAND (AIR-805):

- PROGRAMS ARE TO BE STRICTURED ON A FULLY FUNDED BASIS
- ALL INSTALLATION COSTS ARE CHARGEABLE TO O&MN
- SLEP STUDIES ARE CHARGEABLE TO O&MN IF THE EFFORT INVOLVES EXTENDING THE USEFUL LIFE WITHIN THE CURRENT PERFORMANCE ENVELOPE, AND TO RDT&EN IF THE EFFORT INVOLVES REDESIGN TO INCREASE THE PERFORMANCE ENVELOPE
- CONTRACTOR ENGINEERING TECHNICAL SERVICES ARE CHARGEABLE TO APN-5 FOR CONTRACTOR TO CONTRACTOR SERVICES. CONTRACTOR TO NAVY EFFORT IS CHARGEABLE TO O&MN
- THE INITIAL ILS PLAN IS FUNDED BY APN-5
- SDLM COSTS ARE CHARGEABLE TO O&MN
- TRAINING MATERIAL, TRAINER MODIFICATION, GROUND SUPPORT EQUIPMENT AND PUBLICATIONS ARE FUNDED BY APN-5

Figure III-7. NAVAIR Comptroller Guidance for Submission of OSIP Requirements

hearings the PM/WSM are required to refine all approved requirements and to testify before the NAVCOMPT personnel. During these hearings NAVCOMPT may cut funds from the approved programs but does not cut programs themselves. Funding cuts are eligible for reclama from PM/WSM organizations at this point and have the backing of NAVAIR and CNO. Along with the requirement to refine all the figures presented to the NAVCOMPT hearings, the PM/WSM are required at this point to interface with the Air-04 and Air-05 personnel to attempt to present as complete a package as possible. The output from these hearings, with CNO approval, is the Navy POM.

The September to October 1981 time period is the point where the Office of the Secretary of Defense (OSD) and the Office of Management and Budget (OMB) review the Navy POM. For the PM/WSM organizations, it is basically a reiteration of the process that comprised the NAVCOMPT hearing. The output of this review is the Decision Package Sets (DPS), which are a threat to the ultimate approval and authority to execute an OSIP. Once again, the PM/WSM has the recourse of reclama to again attempt to justify the OSIP requirement. The final output from this review is the DOD budget which is forwarded to the President for Congressional submission in January 1982.

From January through September 1982, the Congress reviews and rearranges the budget submission as required to gain approval. During this period, the PM/WSM is afforded no opportunity to update the OSIP submit. If Congress is able to perform their review function in a timely manner, the first concurrent resolution is passed authorizing new budget authority by May 15, 1982. At this point in time, an internal apportionment process is used by NAVAIR to delineate to the PM/WSM offices the approved OSIPs

and probable funding levels. This procedure is only used if the funding levels are known to be less than that required to proceed with the approved modification programs.

The primary use of the apportionment process from NAVAIR is to identify to the PM/WSM the approved OSIPs and to allow the organizations enough time to request ECPs from either the proposed prime contractor or the Cognizant Field Activity (CFA). Normal generation time, from the author's experience, indicates that it will take three to four months for the ECP to be written and received. Thus, the ECP will arrive at approximately the same time as the start of the new fiscal year.

Upon receipt of the ECP, the PM/WSM reviews the proposal and generates a decision memorandum stating that the ECP is approved or disapproved. From this point, the ECP process takes over and is the subject of the next section.

A quick review of the OSIP procedure indicates that the process is a long and complicated affair, with much time and effort by the PM/WSM and their staffs in generating a requirement and then justifying it. However, this goes back to the statement that was made earlier; the process must preclude the approval of any marginal or technologically insignificant changes. The high levels of review necessary to approve and incorporate a modification program are a necessity to insure that the most beneficial programs are accomplished with the limited funds provided in the budget cycle. Figures III-8 and III-9 summarize in graphic representation the OSIP procedures and budget cycle interfaces.

OSIP PROCEDURES

1. AIR-102 -- NAVAIR NOTICE 4000 REQUESTS OSIP NOMINATIONS
2. WSM, AIR-04, AIR-05 -- SUBMISSION OF OSIPS TO AIR-102 AFTER COORDINATION WITH GROUND SUPPORT EQUIPMENT AND NAVAL AIR LOGISTICS COMMAND PERSONNEL
3. AIR-102 -- COMPILES AND SUBMITS OSIPS TO OP-506
4. OP-506 -- FORWARDS TENTATIVE PROGRAM OBJECTIVES MEMORANDUM (TPOM) TO NAVAIR; BASIS FOR DETAILED PRICING AND PRIORITIES
5. AIR-102 TO OP-506 -- PROGRAM OBJECTIVES MEMORANDUM (POM) WRITTEN; CONTROL TOTALS PROVIDED BY OP-506, OP-501, OP-92 AND AIR-08
6. AIR-102 -- ASSIGNS OSIP NUMBERS TO APPROVED MODIFICATION PROJECTS AND PREPARES BUDGET BACK UP FOR APN FUNDS
7. AIR-102 -- UPON RELEASE OF CURRENT YEAR FUNDS AND THE RECEIPT OF AVIATION CONFIGURATION CONTROL BOARD (ACCB) ACTIONS ON RESULTING ENGINEERING CHANGE PROPOSALS (ECP) DIRECTS FUNDS FOR IMPLEMENTATION OF THE APPROVED PROGRAMS

Figure III-8. OSIP Submission Procedures

OSIP BUDGET CYCLE

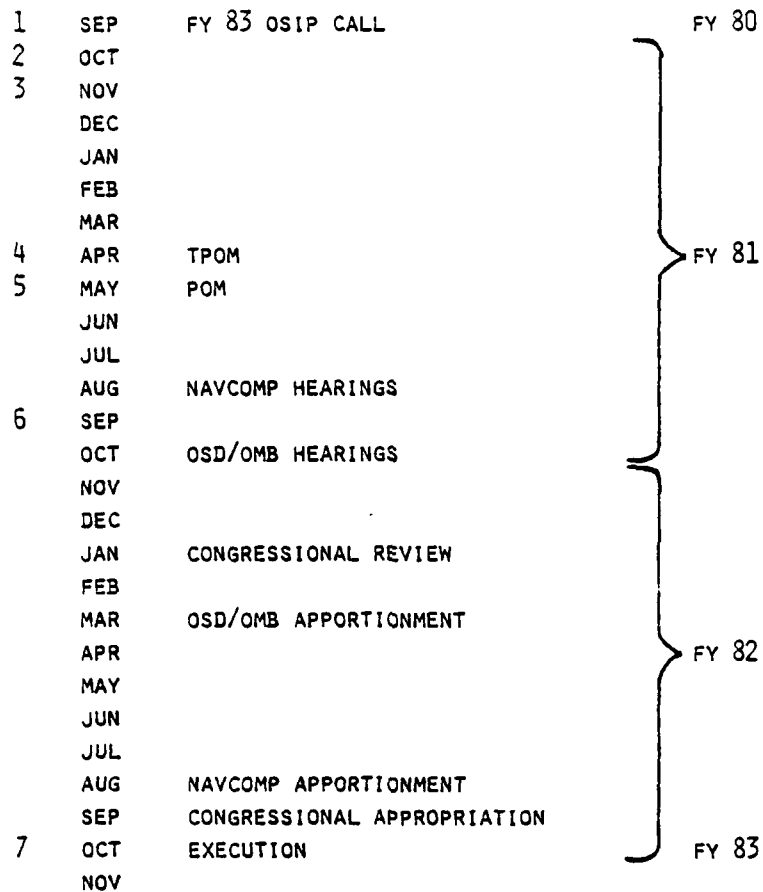


Figure III-9. OSIP Budget Cycle

C. ENGINEERING CHANGE PROPOSAL (ECP)

Once the PM/WSM has decided to approve an ECP, the process that initiates the proposal is relatively rapid, in comparison to the time period required to process an OSIP. Within the PM/WSM organization, the class desk will prepare the Aviation Configuration Control Board (ACCB) format. At the same time, the ILS personnel, in conjunction with the CM personnel, will prepare the Cost and Funding Summary, Milestone Plan, and tentatively estimate the types and amounts of spares required to support the modification process. Input data is received from all the various areas necessary to support the modification effort, i.e., engineering design, maintenance, ground support, publication, manuals, etc.

1. Engineering Change Proposal (ECP) Policy and Guidelines

Configuration control and the interface with ILS involves the use of ECPs and requests for deviations and waivers of technical requirements. Its objective is to ensure the smooth functioning of the ECP preparation, evaluation, approval, and implementation [Ref. 13:11] and to preclude marginal or insignificant modifications [Ref. 1:47].

The procedures for ECP processing and accomplishment are broadly discussed in the Joint Services Regulation on Configuration Management, NAVMAT Instruction 4130.1A, dated 1 July 1974. Actual implementation procedures are contained in the Military Standards, DOD-STD 480A and MIL-STD 481. While both are entitled Configuration Control-Engineering Changes, Deviations, and Waivers, DOD-STD 480A provides the detailed instructions and requires the detailed analysis of the impact of implementing an ECP. MIL-STD 481 covers the procedures for submitting an abbreviated ECP.

Two major policy statements generally summarize the ECP policy for the USN. First, all participants must evaluate the proposed modification to assure that consideration has been given to the total impact of each change. The second policy is that each proposed modification should be evaluated on the basis of overall net benefit of the proposed change. It must include the alternative of not incorporating the modification plan [Ref. 9:IV-2].

In accordance with guidance published in the DOD-STD and the NAVMAT and NAVAIR instructions, ECPs are classified into two broad categories: Class I and Class II changes. Class II changes are those that do not effect performance, interchangeability, cost, maintainability, reliability, or delivery schedules. Class I changes are required for all other situations. Important to note in this classification scheme is that all proposed changes to an equipment or system after product baseline has been established will be processed as Class I changes [Ref. 14:3-1]. As a means for determining whether a change should be Class I or Class II, Figure III-10 is included from NAVAIR Instruction 4130.1A as a representative model of how the process is determined.

Class I ECPs are assigned priorities for determining the time frame in which they should be reviewed and implemented. The priorities are defined as follows;

a. Emergency

If the modification is not accomplished, it may seriously compromise national security or a hazardous condition may result in serious or fatal injury. Decisions on these changes should be made within 24 hours of receipt.

CHECKLIST FOR CLASSIFYING ENGINEERING CHANGES
(In Accordance with DOD-STD-480A)

This checklist is to be used to classify engineering changes to any hardware specified for control in the contract in accordance with DOD-STD-480A, paragraph 4.2.1.

The check sheet statements apply to the lowest level specified by the base line identified in the PCI (Product Configuration Identification) as established in the contract.

Place a check () in the appropriate YES or NO column for items 1 through 16. A check in the YES column indicates the change is CLASS I whereas no checks in the YES column indicates the change is CLASS II.

YES	NO	Are any of the factors listed below affected:
1. <input type="checkbox"/>	<input type="checkbox"/>	The functional or allocated configuration (contract SPECIFICATION for functional or allocated base line).
2. <input type="checkbox"/>	<input type="checkbox"/>	The product configuration identification as contractually specified, (or as applied to Government activities), excluding referenced drawings.
3. <input type="checkbox"/>	<input type="checkbox"/>	The TECHNICAL REQUIREMENTS listed below contained in the product configuration identification, including referenced drawings, as contractually specified (or as applied to Government activities):
(a) <input type="checkbox"/>	<input type="checkbox"/>	Performance (outside stated tolerance).
(b) <input type="checkbox"/>	<input type="checkbox"/>	Reliability, maintainability or survivability (outside stated tolerance).
(c) <input type="checkbox"/>	<input type="checkbox"/>	Weight, balance, moment of inertia.
(d) <input type="checkbox"/>	<input type="checkbox"/>	Interface characteristics.
4. <input type="checkbox"/>	<input type="checkbox"/>	Fee, incentive, or cost.
5. <input type="checkbox"/>	<input type="checkbox"/>	Schedules.
6. <input type="checkbox"/>	<input type="checkbox"/>	Guarantees or deliveries.
7. <input type="checkbox"/>	<input type="checkbox"/>	Government furnished equipment (GFE).

Figure III-10. Checklist for Classifying Engineering Changes

8. ☐ ☐ Safety.
9. ☐ ☐ Electromagnetic Characteristics.
10. ☐ ☐ Operational, test or maintenance computer programs.
11. ☐ ☐ Compatibility with support equipment, trainers or training devices/equipment.
12. ☐ ☐ Configuration to the extent that retrofit action would be taken.
13. ☐ ☐ Delivered operation and maintenance manuals for which adequate change/revision funding is not on existing contracts.
14. ☐ ☐ Pre-set adjustments or schedules affecting operating limits of performance to such an extent as to require assignment of a new identification number.
15. ☐ ☐ Interchangeability, substitutability or replaceability as applied to configuration items (CIs), and to all subassemblies and parts of repairable CIs, excluding the pieces and parts of non-repairable subassemblies.
16. ☐ ☐ Sources of CIs or repairable items at any level defined by source control drawings.
17. ☐ This change is:
 - (a) ☐ CLASS I
 - (b) ☐ CLASS II

Figure III-10. Checklist for Classifying Engineering Changes
(Concluded)

b. Urgent

If the modification is not accomplished, it may seriously compromise effectiveness, or could result in injury to personnel or damage to equipment. Also included are those changes necessary to effect interface changes, or to effect time dependent cost reductions. These changes should be acted upon within 15 days of receipt.

c. Routine

Those cases not covered by a. or b. above. Decisions on these ECPs should be made within 45 days after receipt [Ref. 18:5].

In reviewing ECPs, the USN considers the following ramifications before making a determination on the approval/disapproval of the proposal:

- 1) Relative merit of the proposed modification versus the unchanged equipment or system.
- 2) Manhours, downtime, technical competence, and level and/or type of facilities required to accomplish the modification.
- 3) The manhour backlog required to incorporate previously approved modification programs.
- 4) The effect on spares, repair parts, data, and publications.
- 5) The effect on delivery schedules.
- 6) The effect on personnel training and upon training equipment and devices.
- 7) The effect on existing support equipment and test equipment.
- 8) The availability of appropriate funds.
- 9) Risk assessment of the hazard to be eliminated by the modification, if any, shall include hazard severity and probability of occurrence.
- 10) The effect on reliability and/or maintainability [Ref. 9:IV-5].

2. ECP Processing

Within the USN, ECP processing occurs at the headquarters level (NAVAIR) for aviation weapon system modifications. The body empowered to process ECPs is the Aviation Configuration Control Board (ACCB). Activities submitting ECPs submit them to NAVAIR headquarters attention Code Air-01D4 with information copies to the affected functional areas (Air-04 for logistic support; Air-05 for engineering analysis) and to ASO, Naval Air Technical Service Facility (NATSF), and other affected agencies.

Upon receipt in NAVAIR, the ACCB Secretariat (Air-01D4) is responsible for recording and distributing all Class I ECPs, and requests for Major or Critical Deviations and Waivers. Once the ECP has been deemed acceptable by the PM/WSM, a decision memorandum is issued by the PM/WSM office and is distributed to all who must act on or prepare the ECP for ACCB consideration. Upon receipt of the decision memorandum from the PM/WSM, all action addressees will conduct a detailed evaluation of the proposed modification and prepare required ACCB change request forms, implementation schedules, and financial summaries. The cognizant Air-04, logistics and Air-05, engineering managers are tasked with the responsibility of directing the review and evaluation of the ECPs within their respective groups and with the supporting field activities. In addition, they are also required to keep each other and the PM/WSM informed on any problems that may arise during the review and evaluation and on the progress of the effort.

Processing of ECPs through the Air-04 organization is required to assure that all proposed changes are evaluated by the affected logistics/fleet support areas and coordinated with controlling custodians affected. The Logistics Manager (LM) accomplishes a preliminary review to determine

whether or not affected logistics areas have been adequately addressed. If the LMs deem that they are, they notify the PM/WSM so that a decision memorandum can be expedited. If logistics information is inadequate, the LM should notify the PM/WSM at the earliest opportunity, so that a revision to the ECP can be requested.

The processing requirement for ECPs by the Air-05 organization begins with a detailed engineering review and evaluation. When the total impact of the change has been determined, an ACCB Change Request/Directive is prepared by the cognizant engineer and forwarded to the PM/WSM. In addition, the Air-05 engineer must determine from the Naval Weapons Engineering Support Activity (NAWESA) industrial specialist other service users of items or systems affected by the modification and assure complete coordination prior to ACCB action.

Upon receipt of the completed ACCB Change Request Package, the PM/WSM reviews the package for completeness. If necessary, the PM/WSM should conduct pre-ACCB meetings to resolve funding problems, schedules, and desired production/retrofit effectivities, taking whatever corrective action that may be appropriate. Submission of the ACCB Change Request is made after the PM/WSM signs the package, signifying concurrence with the proposal.

Upon receipt of a ACCB Change Request package, the ACCB secretariat screens the package for completeness, adequacy of funding, justification, required concurrences, and proposed implementing actions. Change Requests packages are then scheduled for review before a weekly meeting of the ACCB. During the meeting of the ACCB, the PM/WSM or a designated representative presents the package to the Board. ACCB members participate interactively during the presentation and address areas under their

cognizance. Of importance in this review is that upon ACCB approval, the Chance Request becomes the official directive to all elements/agencies who are to initiate implementing actions. Of additional note is that ACCB decisions are to be implemented exactly as approved.

Figure III-11 is a graphic representation of the processing requirements for ECPs. The flow presented in this diagram is meant to be representative of the discussion above. Figure III-12 is an actual example of the planning process utilized by the A-3 WSM for modification of RA-3B reconnaissance aircraft to the ERA-3B electronic/reconnaissance configuration. Appendix C is excerpted from NAVAIR Instruction 4130.1A for additional guidance in the processing of modification requests. Noteworthy of this appendix is the many examples that can be used for future preparation, review and evaluation of ECPs.

D. FUNDS FLOW AS A FUNCTION OF THE OSIP/ECP PROCESS

The purpose of the OSIP/ECP process is to generate a flow of funds to justified authorized programs after approval, so that implementation can begin. As stated previously, the major source of funds involved in the modification process for aviation systems and equipment comes from the Aircraft Procurement, Navy (APN) appropriation.

Within the APN appropriation, specific Budget Areas (BA) define the authorized use of funds. Generally, the following breakdown is provided for the BAs.

1. BA-1 through BA-4 fund the procurement of Combat, Airlift, Trainer and Special Purpose aircraft respectively, and also fund changes to aircraft and related items in production and are administered by the Program Manager (PM) or Air Project Coordinator (APC).

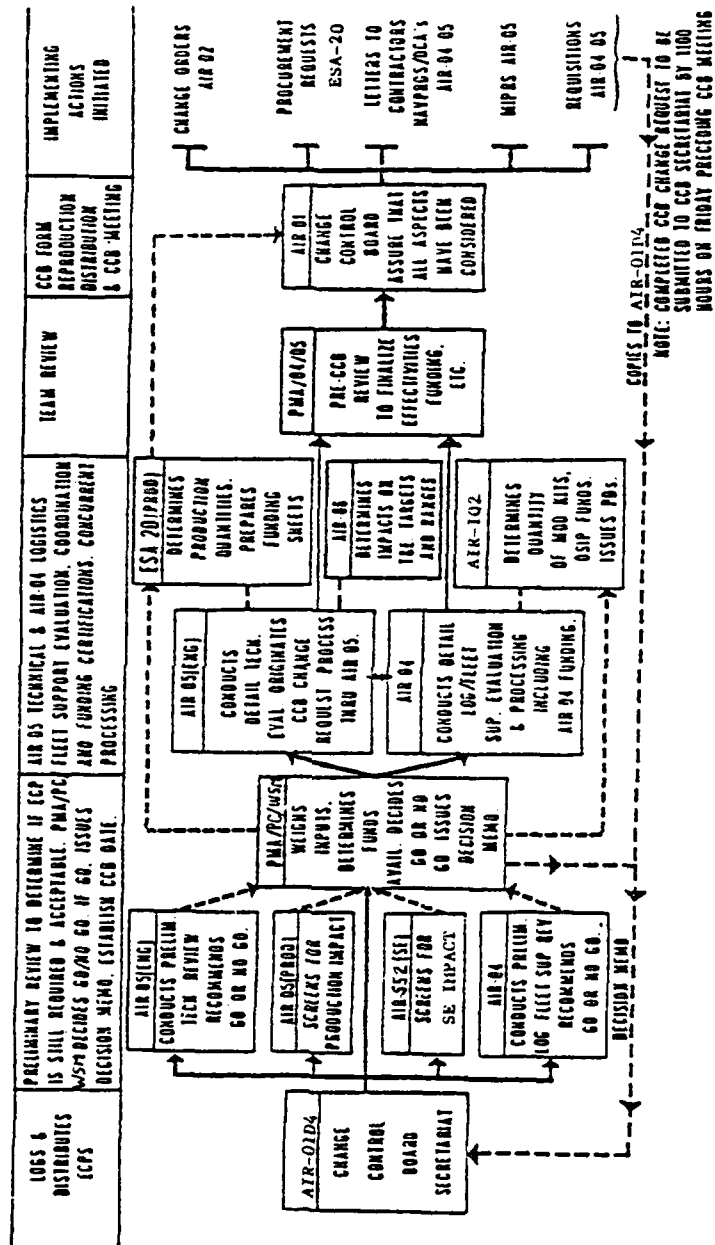


Figure III-11. Engineering Change Proposal Flow Processing Within NAVAIR

ERA-3B MODIFICATION PROCESS

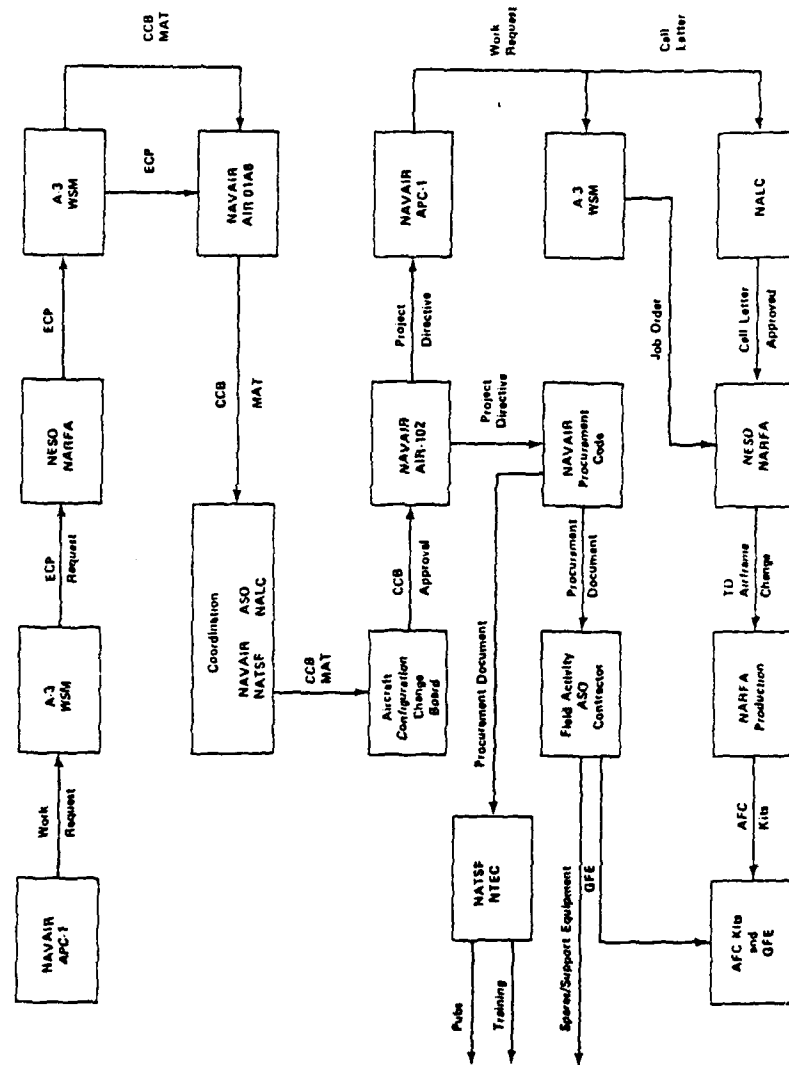


Figure III-12. ERA-3B Modification Process Flow Diagram

2. BA-5 funds are utilized to support the procurement of modification kits and related items of change support for in-service aircraft. Additionally, BA-5 funds support the Service Life Extension Program (SLEP) and Conversion in Lieu of Procurement (CILOP) program. BA-5 funds are administered by Air-102, Aircraft Modification Branch.

3. BA-6 funds provide for:

a. The initial outfitting and pipeline quantities of repairable spares and repair parts for new and modified aircraft.

b. The procurement of repairable spare equipment and repair parts to replenish inventories supporting the operating and flying-hour programs for aircraft already in the fleet.

c. The support of changes to be incorporated by attrition, i.e., engineering drawing or change, technical manual or change, modification of trainers only, modification of Common Support Equipment (CSE), or modification of out-of-production Peculiar Support Equipment (PSE).

BA-6 funds are administered by Air-412.

4. BA-7 funds finance the procurement of aircraft support equipment, production facilities and services. BA-7 funds are administered by various elements within the NAVAIR organization depending upon the type of equipment or facility affected [Ref. 9:C-1].

In addition to the APN funds utilized in the modification effort, Operations and Maintenance, Navy (O&M,N) funds are allocated to the various field activities for use in the installation of modifications and the modification of spares by the NARF as well as the procurement of consumable repair parts. The designation of the "pot" of funds associated with NAVAIR is O&MN-7A. BA-7 relates to the Central Supply and Maintenance portion of the Five-Year Defense Plan. This is the fund that covers

NAVAIRs logistics programs. The largest program covers depot level modification, maintenance, rework, overhaul, and repair of active naval aircraft, engines, air launched weapons, and other aviation related equipment. Other programs funded by this appropriation include engineering and technical services, inspection and contract administration services by Naval Plant Representatives, and technical publications. The O&MN funds are administered by Air-04 through ASO, NALC, NATSF, NAVWESA, and other field activities [Ref. 9:C-3].

The flow of funds from an approved ECP to the implementing activities is delineated by the Cost and Funding Summary, which is attached to the ECP. As shown on the sample in Appendix C, the tasked activity, the implementing activity (NAVAIR fund administrator), and the type and amount of funds are delineated for the purpose of ultimately distributing the funds to the tasked activity. Additionally, it should be noted that funding requirements for the entire life of the program are designated from the first approval.

The distribution of funds is accomplished as a result of a Project Directive (PD) issued by Air-102, once the ECP has been approved by the ACCB. For in-production aircraft managed by a PM, APN-5 funds are directed to the PM, while APN-6 funds are forwarded to Air-412. In the case of an out-of-production weapon system managed by a WSM at a field activity, APN-5 funds are directed to APC-1, the WSM coordinating office located in NAVAIR under the auspices of Air-01, and APN-6 funds are once again directed to Air-412. APN-5 funds are distributed by the PM and APC organizations via requisitions, Work Requests, Requests for Contractor Procurement, Purchase Orders, Allotments, or whatever form is appropriate.

APN-6 funds are distributed by Air-412 to the various tasked activities via the allotment authorization process.

The major problem here, and the hypothesis of this thesis, is that this distribution by Air-412 has no direct link back to the PM/APC/ WSM office that is tasked with the overall supervision and implementation of the approved ECP. Interviews with the PM/WSM organizations, and personnel experience of the author, confirms this fact as one of the major problems in the coordination of modification control and the flow of information necessary to maintain fiscal accountability. In the next chapter, the author will highlight the mechanisms that are utilized at the ASO in its interface with NAVAIR on the management of modification funds assigned.

E. SUMMARY

In this chapter, a brief overview of the processes required to formulate and implement a modification program was presented. The OSIP procedure, as the initial step in the process can be a long drawn-out affair lasting in excess of two years, but is necessitated by the requirement that modification programs be included in the budget cycle on a timely basis. Furthermore, this process is required to insure that a steady flow of innovative improvements are submitted and that only those that are most worthy are selected for incorporation.

The ECP process, as a follow-on to the OSIP procedures, is the method by which NAVAIR is able to review and evaluate the justification for and the methodology by which a change will be incorporated into a weapon system or equipment. The necessity for this procedure is to ensure that all affected funds are available prior to starting a modification effort.

The flow of funds from the OSIP/ECP process starts in the implementation procedures for an approved modification program. While APN-5 and O&MN funds are easily tracked and monitored by the PM/WSM organizations, APN-6 funds administered by Air-412 have no direct link established as a feedback to the PM/WSM. This lack of feedback has been a source of complaints from all PM/WSM organizations that the author has been associated with.

Chapter IV will deal with the problems associated with the lack of positive feedback on APN-6 funds assigned to the ASO. To deal with this subject, a review of the organization setup of both the ASO and NAVAIR will be presented and the interfaces that exist between the two. The approach will address the reports that are generated to accomplish the management of modification funds and the weaknesses associated with the current procedures.

IV. ANALYSIS OF FUNDS MANAGEMENT

A. INTRODUCTION

This chapter will provide a discussion of the management concepts utilized by the Naval Air Systems Command (NAVAIR) and the Aviation Supply Office (ASO) in the management of Aviation Procurement, Navy (APN) funds in the modification process. Having delineated how the Operational Safety Improvement Program (OSIP) and Engineering Change Proposal (ECP) procedures are applied to generate the flow of funds necessary to implement and accomplish the modification plan, the actual management controls for administering the appropriated funds will now be reviewed. The discussion is limited to the funds administered by the Supply Policy and Management Division, NAVAIR Code 412 (AIR-412), i.e., APN-6 funds utilized to support the modification effort, in conjunction with ASO. This is due to the fact, as previously stated, that this is most often the common source of complaints from the Program Manager (PM)/Weapon Systems Manager (WSM) organizations.

The chapter will provide an overview of the management processes that exist in both NAVAIR and ASO in the management of APN-6 funds. The review will highlight the basic organizational structure, the reporting and feedback methods, the strength and weaknesses of the controls that exist, and the problems resulting from the associated weaknesses. Recommendations for improving the current method of operation will then be provided. The discussion in this chapter is a result of the author's personal background and knowledge, data gained from a review of organizational directives, and instructions and interviews with cognizant personnel in the administering organizations.

B. NAVAIR ORGANIZATION FOR ADMINISTERING APN-6 FUNDS

Within the NAVAIR organization, there are several divisions that operate for the purpose of maintaining a viable Naval Air Force. The primary divisions associated with the management of modification funds are Plans and Programs (AIR-01), Logistics and Fleet Support (AIR-04) and the Comptroller (AIR-08). The close interface of these divisions is essential to the success of any modification program to insure that the planning, support, and fiscal requirements all mesh and that the end result is a viable weapon system.

1. Under the auspices of AIR-01 fall the responsibilities for administering the functioning of all PM and WSM organizations. Also included in this division is AIR-102, the Aircraft Modification Management branch. While not fully responsible for the administration of APN-6 funds, this branch is liable for ensuring that the modification process is carried out as specified in the approved Aviation Configuration Control Board (ACCB) Change Directive.

2. The Comptroller Organization, AIR-08, is responsible for ensuring the timely and accurate allotting and reporting of funds assigned to the organization via the budget process for the Department of Defense (DOD). The important interface for the modification process is that an AIR-08 representative must approve all allotment authorizations initiated by the AIR-412 personnel. This serves to allow the close observation of the dispersal of funds to other implementing commands and controls the flow of funds outside of NAVAIR. Additionally, it should be recalled from Chapter III that the AIR-08 organization is also involved in setting the guidelines by which OSIP's are prepared. Close integration between the AIR-08

division and the other NAVAIR divisions is essential for the timely execution of the modification plan and its associated funds.

3. AIR-04 is responsible for the Logistics and Fleet Support function within NAVAIR. To provide the services required by the operating forces, AIR-04 is subdivided into five major branches: Logistics Management Division, AIR-410; Maintenance Policy and Engineering Division, AIR-411; Supply Policy and Management Division, AIR-412; Weapons Training Division, AIR-413, and Ground Support Equipment Management Division, AIR-417. Each of these separate divisions is responsible for a portion of the logistic support provided by NAVAIR in supporting the operating fleet.

a. AIR-410 is responsible for the overall logistic management function for the assigned aircraft. Within this division personnel are assigned as Assistant Program Manager, Logistics (APML) to specific type aircraft. As such, these people are responsible for coordinating with the other divisions within AIR-04 for the specific requirements provided by the other divisions, i.e., maintenance, engineering, supply support, training, and ground support. The APML reports directly to the PM or WSM for the aircraft system.

b. AIR-411 provides maintenance and engineering policy to the APML and to other divisions within AIR-04 on a required basis. Tasking for most of the studies done by the AIR-411 personnel is the direct result of a modification to the aircraft or system, or the result of a failure in the reliability or maintainability of certain pieces of equipment.

c. AIR-413 provides information to the AIR-04 division on the training and publication requirements necessary to meet the desired level of maintainability, reliability, and level of repair capability.

d. AIR-417 functions in much the same manner as AIR-410, except that it deals in the area of ground support equipment instead of aircraft and equipment. This division must also coordinate its effort with the other divisions in AIR-04, or risk the possibility of procuring support equipment that is unusable on the aircraft for which it was intended.

e. AIR-412 is assigned responsibility for supply support policy and management. To provide this support, AIR-412 is organized along functional lines within the matrix management format utilized by NAVAIR to support operating aircraft of the USN. Various desks within the AIR-412 organization are assigned types of aircraft for which they oversee the supply support function. Usually, these positions are aligned with specific communities of aircraft, i.e., Patrol/ASW, fighter, attack, training, etc. The purpose of this alignment is to provide for close coordination between the PM/WSM organization, the APML in AIR-410 and the cognizant supply support area within AIR-412. The single point of contact within AIR-412 for the C-130 Hercules aircraft, for example, would be code AIR-412B3. By setting up this single point of contact, close coordination and interface between the AIR-412 personnel and other activities can be established and maintained.

Also contained in the AIR-412 organization is a Financial Manager, responsible for the administration and allotment of funds to the various activities involved in the modification process. This person is tasked with the timely and cognizant allotting of funds to those activities designated by the approved ACCB Change Directive for implementation of ECP. Figure IV-1 is a representative sample of the format utilized to allot funds appropriated for several modification programs to ASO. Noteworthy in this format is the fact that although the funds are allotted and

ALLOTMENT/SUBALLOTMENT AUTHORIZATION

NAVCOMPT FORM 372 (REV. 6-57)

ALLOTMENT NO. N0001977ALJC403

SUBALLOT. NO.

AIR-4123B1:CVH (2-2-77)

FROM Commander, Naval Air Systems Command
Dept of the Navy, Washington D.C. 20361

TYPE OF AUTHORIZATION

☐ NEW ☒ AMEND. NO.

ALLOTMENT ACCOUNTING OFFICE

ACCOUNTING NO. N00383

(Name and address)

ASO, Philadelphia, Pa.

[Commanding Officer
Navy Aviation Supply Office
700 Robbins Avenue
Philadelphia, PA. 19111]

TITLE OF APPROPRIATION AND SUBHEAD

Aircraft Procurement, Navy 1977

APPROPRIATION SYMBOL AND SUBHEAD

1771506 4610

AUTHORIZATION

The total of this authorization is allotted to fund the purpose stated under "Instructions" and is subject to all limitations specified therein. All financial control, jurisdiction, and responsibility under Section 1679 R. 1 and regulations thereunder, for the total amount allotted, is passed to the addressee. To accomplish the purpose of this allotment, amounts assigned to budget projects may be adjusted within the total limitation but cumulative adjustments to any one budget project totaling 10% or more must be reported to the allottee in accordance with NavCompt Manual, Volume 1.

PROJECT NO.	TITLE OR DESCRIPTION	PREVIOUS ADJUSTED AUTHORIZATION	AMOUNT OF THIS AUTHORIZATION
01	MODIFICATION SPARES - ASO	\$1,872,337.00	\$5,535,498.00
02	MODIFICATION SPARES -Reliability/ Maintainability	-0-	50.00
Expires for commitments on 30 Oct 1977			
Expires for obligation of commitments on 30 Dec 1977			
TOTAL		\$1,872,337.00	\$5,535,548.00

INSTRUCTIONS:

See attached list

New Allotment Total: \$7,407,385.00

For the procurement of new spares, repair parts and kits to modify/update spares. Transfer of funds between Project Numbers on this allotment will be done by formal amendment only.

Copy to:

NAFC (322)

AIR-4123B1

AIR-31A64

AIR-4148B2

AIR-410

AIR-41721A

AIR-4111

AIR-410G (F-4)

AIR-4103A1 (CH-46)

AIR-410136 (EC-130)

AIR-4101A7 (A-7)

AIR-4101A1 (F-14)

AIR-41131 (PPCs)

DATE

FEB 11 1977

APPROVED

M. A. OTEGUI, Head
APN Budget Branch

U.S. GOVERNMENT PRINTING OFFICE: 1959 O-596077

Figure IV-1. Sample Allotment of APN-6 Funds to ASO

AIR-4123B1:OVH (2-2-77)

Allot No. N0001977ALJC403 Amend #6
to ASO Philadelphia, PA.

Ref: (a) F-4, OSIP 4-76, ACCB #731-326S3	5 230,000
(b) F-4, OSIP 4-76, ACCB #761-392S2	313,100
(c) F-4, OSIP 4-76, ACCB #761-392S2	18,795
(d) F-4, OSIP 4-76, ACCB #761-435R2	456,000
(e) F-4, OSIP 4-76, ASO Support	1,000,000
(f) RF-4, OSIP 13-75 ASO Support	2,000,000
(g) CH-46E, OSIP 4-73, ASO Support	1,000,000
(h) EC-130Q, OSIP 21-74, ACCB #741-348R2	165,000
(i) TA-7C, OSIP 19-74, ACTB #771-30	112
(j) RA-5C, R&M, ACCB #771-86	50
(k) F-14, Compatibility, ACCB #761-512	2,000
(l) PPC-86, CCCB #742-147	2,057
(m) PPC-87, CCCB #752-39	1,654
(n) PPC-88, CCCB #752-206	30,600
(o) RF-4, OSIP 13-75, ACCB #751-256S3	24,250
ACCB #751-255S3	9,300
(p) F-14, Compatibility, ACCB #761-259	282,130
	<hr/> 55,535,548

Figure IV-1. Sample Allotment of APN-6 Funds to ASO (Concluded)

administered by AIR-412, approval of the allotment is still retained by the Comptroller, AIR-08. This cross check serves to reduce any possibility of errors in the allotment process and to preclude allotting funds in excess of those authorized by higher authority and the Change Directive. Additionally, it should be noted that the cognizant APML receives a copy of the allotment form. This helps to insure that the matrix management structure is informed of the fact that funds have been allotted to the implementing activity for processing of the assigned task.

Figures IV-2, IV-3, and IV-4 are the organization charts for AIR-01, AIR-04, and AIR-08, respectively. They are included to give the reader an understanding of the structure utilized by NAVAIR in supporting aircraft of the United States Navy (USN).

As stated in Chapter III, AIR-412 is the administering office for APN-6 modification funds. In this regard, AIR-412 must coordinate with the other divisions within AIR-04 to insure that the proper offices are notified of the allotments and that the requirements from all the other divisions are passed to the implementing activities. In the author's opinion, this integration of effort is mandatory to the successful completion of a modification effort. Furthermore, this provides a system of checks and balances over the modification effort to promote the efficient and effective use of resources assigned to the project. Without the close coordination and interface of the AIR-04 offices, no modification program will be successfully completed without serious delays and probable cost overruns.

AIR-01 ORGANIZATION

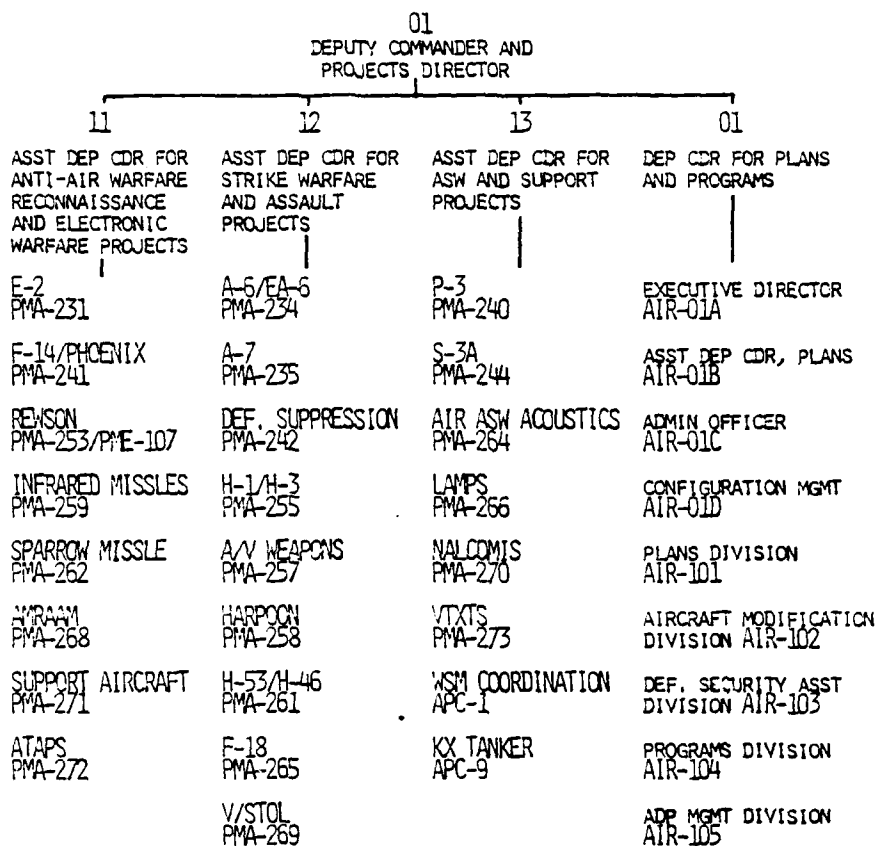


Figure IV-2. Organization Chart for NAVAIR-01

AIR-04 ORGANIZATION

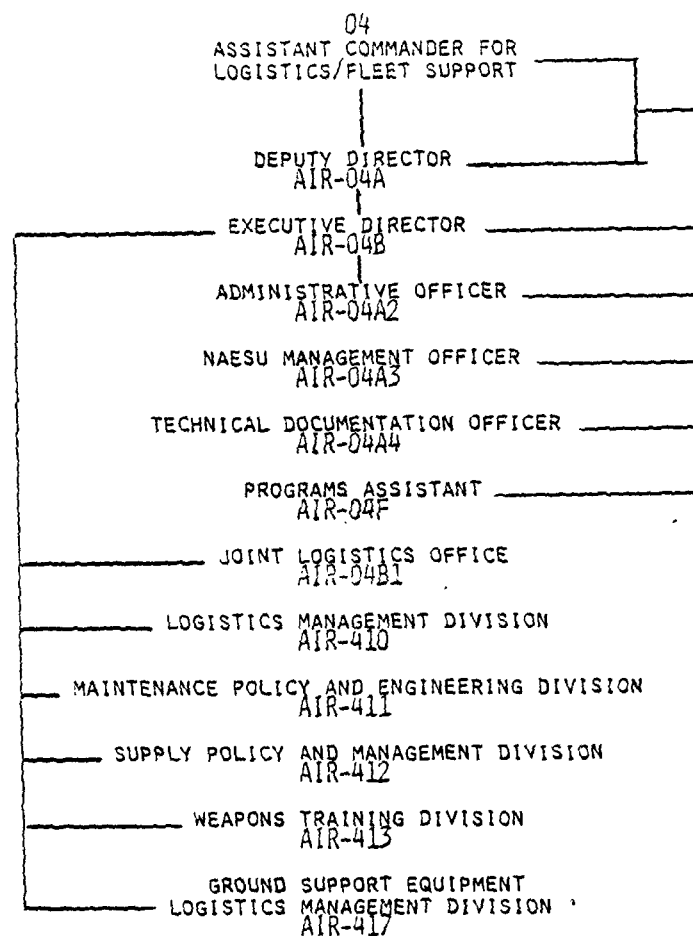


Figure IV-3. Organization Chart for NAVAIR-04

AIR-08 ORGANIZATION

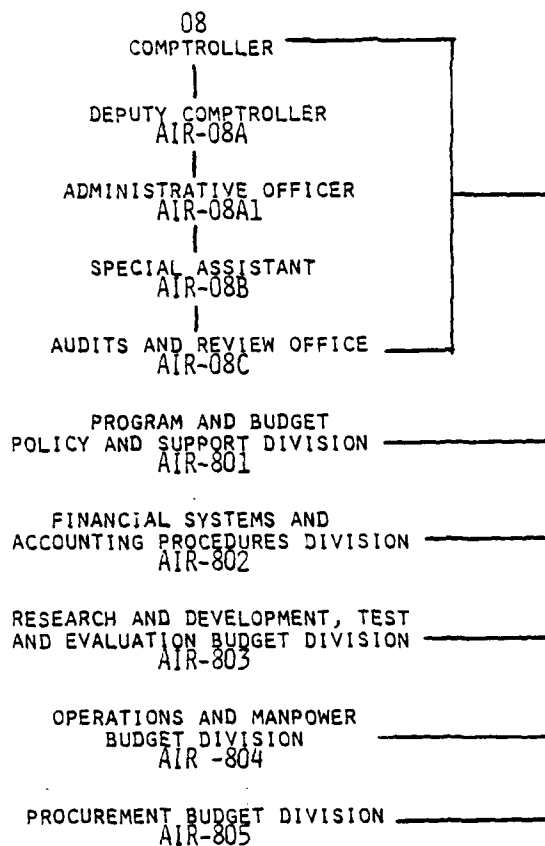


Figure IV-4. Organization Chart for NAVAIR-08

C. ASO MANAGEMENT OF APN-6 FUNDS

1. Background

ASO was established in 1941 because of the need for a single, central, control agency dedicated for the logistics support of the Naval Air Force [Ref. 20:1]. Prior to the organization of ASO as the centralized inventory control point for naval aviation, the need for aircraft spares was satisfied by one of several Navy bureaus or air stations. Spares were procured on an as required basis, or were manufactured as necessary. The advent of World War II spelled the end for this type of support and facilitated the growth of an organization that was to be capable of responding to the need for support on a global basis. Over the past 40 years ASO has evolved from a highly manual operation, to one that incorporates several computers and programs that compute and predict the required spares and repair parts necessary to support the sophisticated aircraft and systems in the USN inventory.

Today ASO manages approximately 213,000 consumable aviation peculiar repair parts and 53,000 repairable assemblies [Ref. 21:IV-1]. To insure proper support is provided to the operating forces, ASO utilizes a budget that is close to \$2 billion for fiscal year 1981. This budget comprises the requirement for rework of repairable assemblies, procurement of new repairables and the procurement of consumable items.

2. Organization

ASO is organized for the purpose of providing logistic support to the operating units of the Naval Air Forces. To provide this support, ASO is divided into four major offices: Operations, Purchase, Comptroller, and Planning and Data Systems. Tasked with the overall responsibility for logistic support in the area of spare and repair parts, these offices

within ASO must work in close harmony to produce the output necessary to provide the desired level of support.

In the administration and utilization of modification funds assigned to ASO as an implementing activity, each of the four branches has an assigned task to perform. Original receipt of funds and responsibility for the monitoring of expenses specifically related to the modification funds is performed by the Comptroller's office. The Operation's office is responsible for the processing of technical data and requirements information into a procurement package that will adequately support the modification effort. Upon higher level review and approval, the Purchasing Branch is responsible for negotiating contracts for the material requirements. Throughout this process, the Planning and Data Systems office is tasked to provide the necessary planning data, i.e., number of aircraft to be modified, number of configurations to support, support sites that must have operating inventory, etc., and the data processing necessary to support the ASO requirement for file data and inventory control.

Thus, the modification process at ASO is one that must be conducted on a coordinated basis to insure that it is properly executed on a timely basis, with the proper emphasis given to the various parameters that are involved in seeing the process through to completion. Figure IV-5 is the organization chart for ASO, showing the interrelationships of all the various offices within the organization.

As can be seen from Figure IV-5, the Operations office is the largest and most complex of the subunits within the ASO organization. Within the Operations office, four divisions are utilized to effect the desired support of aircraft and equipment. The Weapons Logistics (WL) division is oriented toward supporting in-production aircraft systems.

The Stock Control (SC) division manages all out-of-production aircraft, aircraft engines, common aeronautical equipment, and ground support equipment (GSE). The Technical division, which is co-located with the supported WL/SC division, maintains the technical compliance specifications for the assigned aircraft type and advises the WL/SC branches on matters pertaining to the technical capability, engineering performance and requirements related to the cataloging of items for ASO files. The Retail Operations division determines the actual allowances for support material based on parameters provided by the Planning and Data Systems office and various Navy commands. The interface of these four divisions is essential to the support of aircraft systems and equipment as well as the modification effort.

The essence of ASO's purpose is embodied in the WL/SC divisions. These divisions and their branches provide the necessary interface between the user commands, the Hardware Systems commands (NAVAIR, NAVSUP, NAVMAT), and the contractors, so that the required supply support can be provided to the aviation community. It is the author's opinion, based on interviews with cognizant management personnel, that a failure on the part of these divisions and branches to execute the budget and fiscal guidance provided them, will inevitably lead to the failure of support in some aspect for the operational units. It is from these divisions and branches that the basis for ASO's interface to the Integrated Logistic Support (ILS) field and the modification process is effected.

3. ASO ILS Interface

To facilitate the modification process, ASO, as a tasked activity in the implementation of Class I ECPs, participates in the Integrated Logistic Support Management Team (ILSMT) meetings for all Navy aircraft.

These meetings are held to provide for overall ILS management direction. The team is composed of selected personnel from all support organizations and is the primary means of defining, managing, and achieving modification objectives. ASO representation at ILSMT meeting is usually handled by the branch officer for the particular aircraft. Figure IV-6 illustrates the composition of a typical ILSMT. Important in this figure is that the representative from ASO is designated an essential team member. In the author's opinion the main purpose of the ILSMT is to achieve effective, economical, and timely support of a weapon system modification through the use of communication improvement.

4. ASO Budget and Modification Funds Flow

Budgeting for aviation spares and repair parts is a continuous process at ASO. Because of the magnitude and diversity of the budget, and differing appropriations, the related work tends to persist throughout the year. Additionally, budgeting is not limited to consideration of requirements for just the current and next fiscal year. It is normal to have in being, or in process, strategic plans extending 6 or 7 years into the future.

The development of budget estimates covers not only the procurement of aviation spare and repair parts but also the funds for the repair of such material after it is procured. Furthermore, the budget effort relates to both investment material (purchased for initial support of new or modified weapon systems) and replenishment material (for continuing support requirements) [Ref. 22:2].

In developing budgetary estimates, the Comptroller works closely with the ASO weapons managers in the various WL/SC branches who are responsible for providing the logistics support for the weapon systems.

TYPICAL COMPOSITION OF A USN
INTEGRATED LOGISTIC SUPPORT MANAGEMENT TEAM

- A TYPICAL USN INTEGRATED LOGISTIC SUPPORT MANGEMENT TEAM FOR MAJOR PROJECTS AND MODIFICATION PROGRAMS IS COMPOSED OF MEMBERS FROM THE FOLLOWING COMMANDS:
- * DENOTES ESSENTIAL TEAM MEMBERS
 - * - NAVAIR; CHAIRMAN (FOR NAVAIR MANAGED PROGRAMS)
 - * - WEAPON SYSTEM MANAGER; CHAIRMAN (FOR TRANSITIONED PROGRAMS)
 - * - CHIEF OF NAVAL OPERATIONS REPRESENTATIVE (SPONSOR)
 - CHIEF OF NAVAL RESERVE REPRESENTATIVE (WHEN INVOLVED)
 - * - AVIATION SUPPLY OFFICE REPRESENTATIVE
 - COMMANDANT OF THE MARINE CORPS REPRESENTATIVE (WHEN INVOLVED)
 - * - NAVAL AIR TECHNICAL SERVICES FACILITY
 - * - COMMANDER, NAVAL AIR FORCES ATLANTIC OR PACIFIC
 - CG FOURTH MARINE AIR WING (WHEN INVOLVED)
 - FLEET MARINE FORCES ATLANTIC OR PACIFIC (WHEN INVOLVED)
 - * - CHIEF OF NAVAL AIR TECHNICAL TRAINING
 - * - NAVAL AIR LOGISTICS CENTER
 - * NAVAL AIR REWORK FACILITIES
 - * NAVAL/AIR FORCE PLANT REPRESENTATIVES OFFICE (DURING PRODUCTION PHASE)
 - * NAVAL AIR ENGINEERING CENTER

Figure IV-6. Organization of a Typical USN ILSMT

this provides for the close interface of financial and supply considerations. In this joint process, ASO utilizes the Stratification Program, a standardized DOD computerized process which determines by simulation what items will be required for procurement and in what quantities.

From the budgeting process, ASO receives the funds necessary to accomplish its routine business as well as funds for the modification process. Basically, the two segments of modification funds are APN-6; Modification Initial (MOD I), which are funds allocated to ASO for the procurement of new items introduced as a result of a modification to an operating aircraft or system, and APN-6; Modification Follow-On (MOD FO), which are the funds used for follow-on support for on-going modification programs [Ref. 21:I:2]. It should be noted that MOD I funds are not budgeted for by ASO. They are the direct result of the allocation process from AIR-412 following the approval of an ECP at the ACCB. MOD FO funds are budgeted for by ASO as part of their normal replenishment budget.

Table IV-1 is the summary of the ASO budget as of 8 February 1981. This table portrays the funding levels for the past three fiscal years by appropriation and budget area. Emphasis has been added to the MOD I line for each year to make it easily discernable. Noticeable also is that no line exists for the MOD FO budget. This is because, as stated earlier, the MOD FO budget is computed as part of the normal APN-6 replenishment budget. Thus, buried within the FY 81 APN-6 replenishment figure for annual obligation plan is the total for MOD FO. To determine the amount that is applicable to this, Appendix D is provided, which is the actual allotment of funds to the WL/SC branches. By adding up the lines for MOD FO assigned, the reader can obtain a dollar value total for the MOD FO funds authorized for FY 81. Figure IV-7, excerpted from the ASO FY 81

TABLE IV-1. SUMMARY TOTALS FOR ASO BUDGET FOR FISCAL YEAR 1981, 1980 and 1979

ALLOTMENT	SUMMARY TOTALS										STATUS OF FUNDS REPORT			
	AS OF 0730 MONDAY 08-02-81 DAY 01039	PERCENT OF FY -	35.0	ANNUAL OBLIG PLAN	AUTH RECD	DATE	TO UNOBL BAL	DEBT PCT	COMMIT AUTH RECD	DATE	TO UNOBL BAL	OUTSTG OBLIG COMMIT	TOTAL O C I	
FY81 NSF INITIAL	27278	24300	7255	17645	26.5				24900	11309	13591	4054	9720	21029
FY81 NSF REPL	591249	331002	170438	160564	28.8				427302	300724	126578	130286	112290	413014
FY81 NSF FIELD ACT	19405	10368	2806	7562	14.4				10368	3253	7115	447	0	3253
FY81 NSF BRASU R	23000	12300	3354	9546	14.5				12900	5027	7873	1673	0	5027
FY81 APN 84 INIT	0	0	0	0	-				0	0	0	0	3497	1887
FY81 APN 6 INIT	101543	29981	353	29628	.3				29981	1457	28524	1104	19049	20506
FY81 APN 6 MID I	6364	200	0	200	.0				200	0	200	0	0	0
FY81 APN 6 PUSE I	20213	11548	667	10931	3.2				11548	1773	9125	1106	456	1502
FY81 APN 6 RLPL	615939	362944	117448	245496	19.0				362444	211887	151057	44319	153522	305409
FY81 APN 7 G-E	17400	16000	4040	11960	23.2				16000	7561	8439	1521	19544	27105
FY81 APN 7 C-SE	400	3000	0	3000	.0				3000	0	3000	0	0	0
FY81 APN 7 RIK	555550	200	0	200	.0				200	0	200	0	0	0
FY80 APN 6 INIT	11153	14029	13088	941	98.0				14029	13504	525	416	96	13600
FY80 APN 6 MID I	2150	2158	1325	833	61.3				2158	1596	562	271	140	1742
FY80 APN 6 PUSE I	3772	3772	2174	1598	57.6				3772	3549	223	1375	160	3709

TABLE IV-1. SUMMARY TOTALS FOR ASO BUDGET FOR FISCAL YEAR 1981, 1980 and 1979 (Continued)

ALLOTMENT	SUMMARY TOTALS										STATUS OF FUNDS, REPORT DOLLARS IN THOUSANDS	
	AS OF 0730 MONDAY 08-02-81 DAL 81039	PERCENT OF FY - 15.8	ANNUAL OBLIG PLAN	OBLIG AUTH RECD	DATE	UNQUIL BAL	OBLI PLAN PCT	COMMIT AUTH RECD	DATE	UN-DM DAL	OUTSTG COMMIT	TOTAL O C I
FY80 APN 6 RLPL	854881	302260	292101	10159	34.1	302260	300243	2017	0142	4317	12539	304640
FY80 APN 7 GSE	0	20180	19594	586	-	20180	20016	164	422	3795	4217	23811
FY80 APN 7 CHOPLOD	0	275	0	275	-	275	0	275	0	0	0	0
FY 80 APN 7 RIK	0	5900	4771	529	-	5900	5302	598	431	61	992	5363
FY80 APN 1 SPC PIR	0	2248	15914	665	-	2248	1850	398	267	312	579	2162
FY80 APN 5 SPC PIR	0	46	46	0	-	46	46	0	0	0	0	46
FY80 APN 7 SPC PIR	0	15	7	8	-	15	14	1	7	0	7	14
FY80 APN 2 SPC PIR	0	549	502	47	-	549	502	47	0	56	56	518
FY79 APN 3 SPC PIR	0	1100	1034	6	-	1100	1094	6	0	0	0	1014
FY79 APN 6 IHIT	20112	20532	13104	728	96.4	20532	20203	329	399	85	484	20288
FY79 APN 6 MUD I	9407	9100	1100	0	99.9	9400	9400	0	0	0	0	1400
FY79 APN 6 PUSE I	3612	3610	2118	612	83.0	3610	3270	340	272	30	302	3360
F79 APN 6 RCL	13751	289071	287849	1222	92.9	289071	287852	1219	3	418	421	288270
FY79 APN 7 GSE	16450	16916	16198	738	93.4	16936	16793	143	595	475	1070	17268
FY79 APN 7 CUSE	400	400	165	235	41.2	400	215	185	50	0	50	215

TABLE IV-1. SUMMARY TOTALS FOR ASO BUDGET FOR FISCAL YEAR 1981, 1980 and 1979 (Concluded)

ALLOTMENT	SUMMARY TOTALS										STATUS OF FUNDS REPORT		
	AS OF 0730 MONDAY 08-02-81 DAY 11039	PERCENT OF FY - 35.0	ANNUAL OBLIG PLAN	OBLIG TO UNOBL DATE BAL	OBLIG PLAN PCT	COMMIT AUTH RECD	COMMIT DATE	UNKNOWN BAL	OUTSTG COMMIT	OUTSTG TOTAL	OUTSTG TOTAL	OUTSTG TOTAL	OUTSTG TOTAL
FY79 APN 6 S-JA	644	643	120	23	96.2	643	620	23	0	0	0	620	620
FY79 APN 6 FA	192	192	192	0	100.0	192	192	0	0	0	0	192	192
FY79 APN 1 SPC PUR	0	8350	5601	2749	-	8350	6302	2048	701	2059	2800	8401	8401
FY79 APN 5 SPC PUR	0	548	384	164	-	548	384	164	0	0	0	384	384
FY79 APN 2 SPC PUR	0	138	110	28	-	138	116	22	6	6	6	116	116
FY79 APN 4 SPC PUR	0	40	48	8	-	40	48	8	0	0	0	48	48
FY81 OSMN	134613	134613	81509	53104	60.5	134613	122673	11940	41164	1442	42606	124115	124115
FY81 GSE OSMN	500	500	37	463	7.4	500	320	180	203	0	263	320	320
FY81 OSMN DEC MGMT	186	186	1175	989	631.7	186	2800	2614	1625	0	1625	2800	2800
FY81 OSMN SSCP	650	650	111	539	17.0	650	257	393	146	0	146	257	257
FMS R OF R	0	30474	19446	10628	-	30474	21118	9356	1272	0	1272	21118	21118

APN-6
FY81 REPLENISHMENT
MOD

<u>AIRCRAFT TYPE</u>	<u>MODIFICATION</u>	<u>FUNDS</u>
A6	Tram	28.602
A6	CAINS/CNI	2.392
A6	AMTI	.096
A6	Arresting Hood	.005
A6	A6E to KA6D	.765
EA6	EA6A Update	.551
EA6	EA6B ALE 41 (Prov)	.034
EA6	EA6B ALE 39	.025
EA6	EA6B ALE 39	.017
A7	A7 ARN-84/ARN-118	.131
A7	A7 FLIR	11.877
A7	A7 ALE 39	.067
AV8	AV8C CILOP	.204
AV8	Emergency Power	.037
F4	F4J to S	1.775
F8	F8 ALE 39	.012
F14	Carbon Brake	.309
F14	Hydr. Aux. Brake	.205
OV10	OV10 ALE 39	.090
H46	CH46E	4.362
H46	H46 ALE 39	.100
H53	H53 ALE 39	.352
H1	Tow Mod	1.030
H2	SH-2 Avionics	8.013
P3	Teletype	.149
P3	TACNAV	2.696
P3	P3 FLIR	1.598
P3	Harpoon	.709
P3	P3B Instr. Update	.176
EP3	EP3 SLEP	1.405
E2	ARPS	3.731
C130	C130 CILOP	.164
C130	KC130 CILOP	.133
Various	ALR 45	1.044
Total		72.856

Figure IV-7. FY 81 APN-6 Replenishment/Modification
Account Breakout

AD-A110 907

NAVAL POSTGRADUATE SCHOOL MONTEREY CA
AN ANALYTICAL REVIEW OF THE MANAGEMENT OF MODIFICATION FUNDS IN-ETC(U)
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Budget Execution Plan, delineates the actual total dollar value for the FY 81 MOD FO budget and equates it to aircraft type and OSIP number. This figure is useful in that it portrays the amount of funds that are budgeted for the MOD FO for specific aircraft, yet it does not provide information on what material is required. This figure is also the only delineation of MOD FO available at ASO that equates dollar value for MOD FO to aircraft type.

5. Requirements Processing

To facilitate the procurement of spare and repair parts necessary to support the operating units of the aviation community, ASO utilizes the Item Manager (IM) concept. Each IM is assigned specific items by National Stock Number (NSN) to manage. The assignments are based on experience and ability of the IMs.

IMs are hired at ASO on a trainee basis, such that the first two years that they are onboard, they are exposed to a wide variety of situations; while at the same time, having a training facilitator to review and approve their work. After the initial probation period, trainees are assigned as IMs throughout the various WL/SC branches.

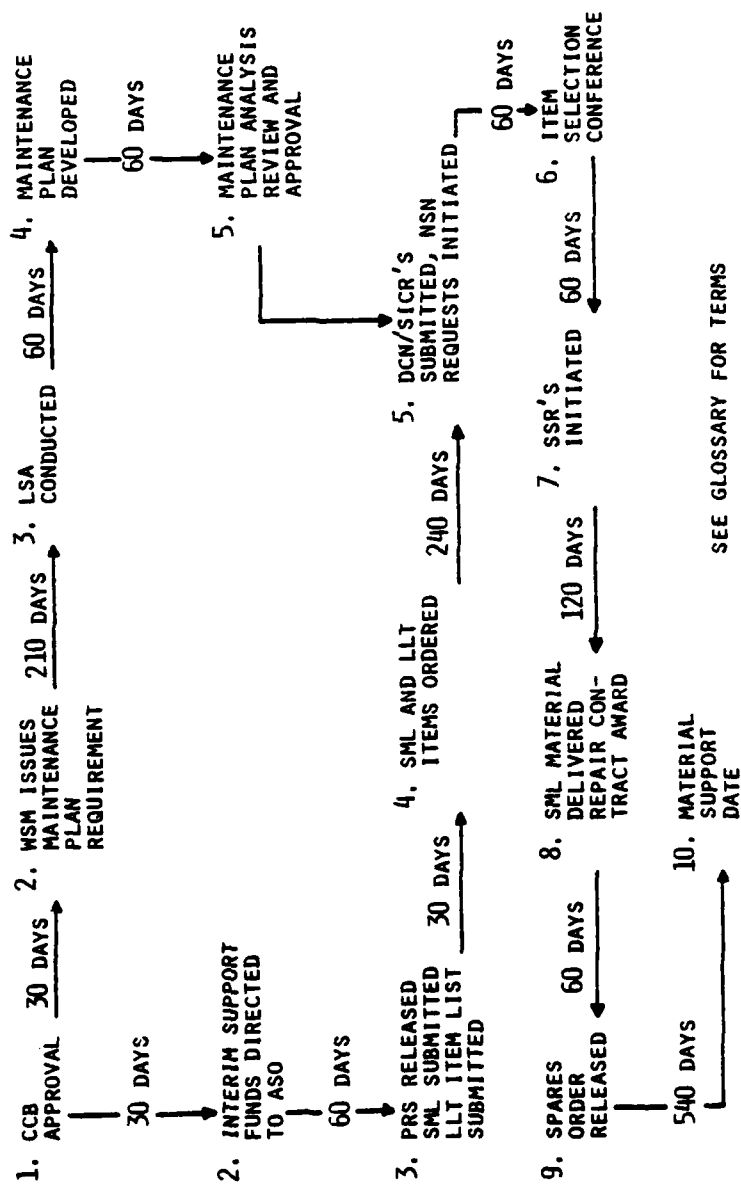
In the processing of requirements related to a modification program, the first notification ASO received is usually the receipt of the draft ECP. The draft ECP is routed to the applicable WL/SC branch and to the cognizant IM for concurrence on support of the plan. The draft is returned to the ASO representative to the ACCB, who then hand carries the ASO concurred copy back to the weekly meeting of the ACCB. Upon approval by the ACCB, the ECP and its associated change directive facilitate the flow of funds into ASO.

Figure IV-8 illustrates the spare and repair parts acquisition cycle that occurs after ASO receives funds for the modification process. Initially, funds are directed to ASO to procure the interim support that will be necessary to support the first few aircraft to be modified. This material will be necessary to provide the required support until the actual delivery of provisioning spares at the Material Support Date (MSD). Additionally, funds are provided early on to support the contracting for the provisioning requirements statement (PRS), and the submission of the Long Lead Time (LLT) items list. After this initial flurry of action to support the modification effort, approximately a year and a half is required for the establishment of items required to be procured as spares to support the program. Once the spare and repair parts are ordered, an additional one and one half years is required to receive the material. Thus, as depicted in Figure IV-8, the time involved in the process from first receipt of funds until ASO is in a position to support the modification spans approximately three and one half years.

6. Feedback from ASO to NAVAIR

Throughout the spares and repair parts acquisition cycle, feedback of information on the progress made by ASO must be furnished to NAVAIR. The requirements to keep NAVAIR and the cognizant PM/WSM offices informed of actions taken to implement the requirements of the change directive is accomplished in three ways; formal reporting via the Modification Report to NAVAIR, interface with the PM/WSM organizations during the ILSMT and response to action items directed to ASO, and by telephonic reporting. While all of these reporting methods were felt to be essential by the PM, WSM, APML, and ASO personnel that were interviewed, the common feeling of the interviewees was that the ability of these feedback methods to provide

SPARES AND REPAIR PARTS ACQUISITION FLOW CHART



SEE GLOSSARY FOR TERMS

Figure IV-8. Spare and Repair Parts Acquisition Flow Chart

a complete and accurate picture of the efforts of the implementing activity's efforts was too disjointed to be of much practical and timely use. Figure IV-9 illustrates the typical monthly ASO modification follow-on funds report. Apparent from this report is that no indication of what was procured is available; only that the funds have been spent. The ILSMT and telephonic reports serve the purpose of providing the information to the PM/WSM organization on what was actually procured to support the modification program. Taken as a whole, these three reporting methods might provide the necessary information to the appropriate offices if the data contained in each reporting method could be summarized in a single report on a monthly basis.

D. PROBLEMS AND WEAKNESS WITH THE PRESENT SYSTEM

With the structured flow of funds and information between NAVAIR and ASO, the question arises as to why the management of modification funds is source of so many complaints? Given the availability of funds and the people necessary to make the required procurements, why are the PM/WSM offices continually complaining about the lack of adequate support for the modification program? In the author's opinion, the answer lies in the inherent problems that exist in the modification program structure presented in this and previous chapters. The following problems and weaknesses, as perceived by the author's analysis, are the most prominent reasons for the complaints of inadequate support.

1. Inadequate Control of Funds

As stated earlier, the current structure of modification funds in ASO provides for two separate accounts to accommodate the two different sources of funds. The setup for MOD I funds is adequate in that this set

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ASO PHILADELPHIA PA
COMNAVAIRSYSCOM WASHINGTON DC

ACCT NA-CNRF

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FM MBP2-3 FOR AIR-04, 412, 4123

SUBJ: EXECUTION OF FY 80 AND FY 81 MODIFICATION FOLLOW-ON REPLEN
SPARES (APN-6)

A. NAVAIR 272236Z SEP 78

B. ASO LTR MBP1-1:APC: OF 28 AUG 78

1. IAW REFS A AND B MODIFICATION FOLLOW-ON SPARES COMMITMENTS/

OBLIGATIONS THRU 1 DEC ARE AS FOLLOWS: (IN MMS)

OSIP NO	AIRCRAFT TYPE	AMT COMMITTED	AMT OBLIGATED
4-76	F-4	.355	2.572
4-73	H-46		.944
8-78	H-2		.268
13-75	F-4	1.089	.445
17-71	H-3		.053
5-73	H-53		2.100
32-80/3-79/48-74	ARN-84		.141
4-80	A-3		.128
23-79	A-7		5.529
52-72	P-3		3.153
30-75	P-3	.050	.150
9-77	A-6		.388
32-77	E-2		2.269
	TOTAL FY 80	1.494	18.140
4-73	H-46	.144	
23-79	A-7	9.746	
52-72	P-3	.466	
	TOTAL FY 81	10.356	

Figure IV-9. Sample of the ASO OSIP Execution Report

of funds is centrally managed by the budgeting personnel in the Comptroller's office. Requirements levied against these funds are authorized only for the aircraft for which the funds were intended. However, MOD FO funds are budgeted in the normal APN-6 replenishment account and are distributed to the respective branches in accordance with the budget execution plan. As depicted in Appendix D, these funds are delineated in the branch totals for annual obligation planning purposes. However, there is no mechanism within ASO to preclude the use of these funds in the procurement of normal replenishment spares. Additionally, from Appendix D it should be noted that in FY80 another line is included in the branch figures, MOD FO PAYBACK. This line indicates the amount of funds that are required to fund the use of MOD FO dollars for actual use in normal replenishment. The bottom line of this problem, in the author's opinion, is that you cannot continually rob Peter to pay Paul. Eventually, the requirement for MOD FO payback will exceed the annual obligation plan for normal APN-6 replenishment procurements. The ultimate loss in this situation is the operating unit that is trying to achieve a flight hour and readiness goal, but is unable to because the parts required to support the configuration aircraft have never been acquired. The expenditure of MOD FO funds for normal replenishment defeats the purpose of efforts that were described in Chapters II and III, the actual attainment of funds.

2. Funding Provided Too Early with No Definitized Requirement

While some funding is required in the early stages of the modification process after the ACCB approval to facilitate the contracting for the PRS, LLT items, and the interim support, the necessity for early funding of spare and repair parts does not exist. In the early stages of the modification program, in the first six months following the ACCB

approval of the ECP as described in Chapter III, definitized requirements as to what will be required to support the modification process will not have been formulated. Thus, the requirement for funding spares and repair parts is not needed at that point in time. Funding during year three of a five year modification program would be adequate to support the requirement to deliver spares by MSD, assuming that the time frames specified in Figure IV-8 are accurate. The practice of funding too early leads to the use of MOD FO funds for other than that for which they were appropriated, while funding too late would perpetuate the lack of support at MSD. No hard and fast rule can be set but judgement must be used in the administration and allotment of these funds.

3. Temporary Reprogramming Tends to Become Permanent

In conjunction with the early funding and lack of definitized requirements, both MOD I and MOD FO funds are eligible for reprogramming. According to interviews with ASO personnel, the manner in which this is accomplished is usually after the fact. In the MOD I area, a requirement is generated that exceeds the appropriated amount for a particular aircraft. After checking with the other aircraft managers, authorization to spend funds authorized for a different aircraft is furnished to the requesting manager. After the fact, ASO notifies NAVAIR of the shift in funds and NAVAIR modifies the funds allotted to ASO. After this, it is incumbent on the losing manager to insure that his funds are reimbursed from the receiving manager at a later date [Ref. 23]. Unfortunately, as ASO admits, this seldom occurs [Ref. 24]. In the MOD FO area, the situation exists as stated previously; MOD FO funds are utilized to fund normal replenishment procurements and rarely are adequate funds available to affect MOD FO PAYBACK [Ref. 23].

4. Lack of Understanding by the IMS

In the last five years, the IMs who had been at ASO since shortly after World War II have been retiring at a rapid rate. To continue to provide the requisite service to the operating units, new IMs had to be recruited and trained. The lack of corporate knowledge has led to some of the problems involved in the modification programs. While the training provided to the new IMs is generally very good, it cannot provide 30 years worth of knowledge in 24 months. The training provided allows the IM to become proficient in this short period of time in the processing of normal supply demand reviews and automated procurements, but, in the author's opinion, does not allow them the time to become competent in the fine points of procurements to support a modification program. In view of the volume of dollars afforded the modification programs as a percentage of the total ASO budget, this is probably appropriate, however, the results of this are the continuation complaints from the PM/WSM organizations on lack of support. The expenditure of modification funds is really no different from the expenditure of other funds at ASO. It only requires the ability to wait for the program to develop through the maintenance plan into stock numbered items and then procuring those items that are required for the level of support required to meet the operational objectives.

5. Inadequate Feedback

The feedback system that currently exists to inform NAVAIR and the PM/WSM offices of the implementing activities actions is insufficient to provide the data necessary for the PM/WSM to fully comprehend the scope of actions taken and to know where the funds that they fought for during the

OSIP/ECP process are going. Additionally, the ILS and CM personnel assigned to the PM/WSM organization must be kept informed of the actions taken so that they can coordinate their efforts in providing the best possible support to the operating units.

E. RECOMMENDATIONS TO IMPROVE THE MANAGEMENT OF MODIFICATION FUNDS

In light of the problems identified above, the following recommendations are submitted to improve the management of modification funds. The recommendations provided do not presume to make a determination of the limitations on management caused by the size of the staff and the cost of implementing some management control techniques.

1. Control Funds Within ASO

From the author's analysis, and from interviews with ASO and PM/WSM personnel, the first and by far the most important aspect of gaining control of the modification effort is to ensure the control of funds within ASO. Reprogramming of funds should not be allowed without NAVAIR concurrence prior to the authorization. By allowing NAVAIR to first concur on the reprogramming of MOD I funds, the annual allotments could be adjusted within NAVAIR to ensure that the payback of funds to the aircraft system that lost funds was effected. Of greater importance is the necessity to control the expenditure of MOD FO funds for normal replenishment procurements. Safeguards should be established within the computer programs of ASO to preclude the occurrence of this action. Continuation of this approach to meeting the normal replenishment of spares and repair parts will only further aggravate the source of complaints from the PM/WSM organizations and prevent the successful completion of modification efforts that are necessary to maintain the readiness posture of the Naval Air Forces. In addition to establishing

computer safeguards, MOD FO funds should be "fenced" to preclude the use of MOD FO funds authorized for one particular aircraft type on another. While this flexibility is desirable, the use of this practice tends to short change the manager who is less timely in the accomplishment of procurements related to the modification program.

To further promote the control of modification funds within ASO, it is recommended that a "central clearing house" be established for all procurements related to MOD I and MOD FO funds. While the delineation of funds available to the various branches is a step in the right direction, centralized control of the expenditure of funds within one office or desk should preclude the expenditure of funds on programs that are not authorized for expenditure of MOD I and MOD FO funds. Furthermore, by establishing such a position, fund shortages could be more readily addressed to AIR-412, rather than the current method of reprogramming in-house and then advising NAVAIR.

Control of funds within ASO is essential to the attainment of the objectives of all modification programs. Failure to gain control of the funds will perpetuate the current inefficient method by which modification funds are utilized in the support of modification programs essential to the continued readiness of the operating forces.

2. Reduce Front-End Loading of APN-6 MOD Funds

Current procedures for submission of OSIP/ECP requests require the delineation of all funds by fiscal year for the life of the program. For reasons unknown to the author or to those personnel in the PM/WSM organizations that were interviewed, heavy front-end funding of APN-6 modification funds is prevalent. This practice should be stopped and funds should be more heavily weighted to the latter years of the program when definitized requirements have been determined.

By placing APN-6 funds in the early years of the program, the officials preparing and approving OSIP/ECP requests are aggravating the control of funds problem within ASO. A continuation of this practice will lead to the continuation of internal reprogramming within ASO. Even with the establishment of tighter control within ASO, assignment of funds to ASO for which no definitized requirement exists will promote the inefficient utilization of resources. This will occur because of the ASO mandate to spend funds to the 98 percent level [Ref. 23].

A conscious effort must be made on the part of the PM/WSM staffs to ensure that the Cost and Funding Summary Chart filled out as part of the ECP format for the ACCB review, shows a realistic approach to the required funding schedule. Failure to provide a funding chart that realistically portrays the requirements of the program will perpetuate the inefficient assignment of APN-6 funds to the early stages of the modification program and the subsequent loss of control of funds at both NAVAIR and ASO.

3. Improve the Level of Knowledge

Nothing can replace the 30 years of corporate knowledge that leaves with the retirement of a senior IM. However, the level of knowledge and understanding of the modification process is essential for ASO to meet its requirements as a tasked activity in the program. The current method by which ASO's IMs achieve the necessary level of knowledge is through on-the-job-training after the initial two year training period. To improve the level of knowledge and capability of the current work force at ASO, several alternatives are possible. First, the ASO management could institute a training program in-house to increase the level of knowledge. Secondly, in-house briefings by the PM/WSM organizations could

be conducted in an attempt to educate the cognizant personnel on the requirements associated with the modification program. Third, ASO could increase the level of their attendance at ILSMT meetings to include more than just the cognizant branch head. By including IMs and technicians at the ILSMT, a greater depth of understanding and corporate ability could be developed. Fourth, outside contractors could be utilized to conduct training workshops in modification management, a service which is readily available, but seldom used.

The author feels that all of the alternatives listed above should be utilized to the maximum extent possible. In combination, the output from these alternatives could rapidly increase the level of knowledge and understanding of the ASO IMs and at the same time expose the PM/WSM personnel to the problems that the ASO personnel face in meeting the requirements for implementing a modification effort. Additionally, enlarged participation at the ILSMT meetings by ASO personnel would facilitate a broader depth of understanding, so that with turnover in personnel, the entire corporate knowledge is not lost. The concept of using outside contractors to help train the IMs is also attractive in that this approach would probably be the least biased to a particular aircraft type and could present the training in a perspective that is not available with in-house training or by PM/WSM briefings.

Failure to increase the level of knowledge and understanding of the IMs at ASO will perpetuate the current practices of ASO in the management of modification programs. It is essential to the attainment of the objectives of the modification program that the personnel tasked with implementing actions understand the ramifications of all actions taken or not taken.

4. Improve the Feedback Loop to Include the PM/WSM

The feedback loops that currently exist are insufficient to provide the PM/WSM with the necessary knowledge on what is happening within the modification program. The necessity of this information is important to the PM/WSM who wants to have full control of his/her program and be able to answer up to the operating units on the issues dealing with support of the aircraft.

To improve the feedback loop, the author recommends the utilization of the "central clearing house" concept suggested in the recommendation for control of funds within ASO. This office should be staffed with adequate personnel to allow the reporting of material procurements by aircraft type for the modification programs as well as expenditures. Separate reports should be submitted for each aircraft type on a monthly basis, should be addressed to all personnel who need or desire the information, and should detail the actual material for which acquisition has been contracted as well as the amount of funds involved in the expenditure. By so doing, the PM/WSM offices, as well as NAVAIR, could gain a better understanding of where the funds are going and for what purpose. This could also improve the checks and balances over the system as a whole, in that the procurement of spare and repair parts would be prominently displayed to the commands receiving the reports. Any disputes could be readily surfaced and procurements adjusted or realigned to what the PM/WSM felt was correct.

Neglecting to improve the feedback loop from ASO to PM/WSM organizations will result in the continuation of complaints from the PM/WSM offices of lack of support and lack of visibility as to how the funds appropriated by the OSIP/ECP procedure are being utilized. Notification

at an ILSMT six months after the fact that ASO procured the wrong item, or the wrong quantity, or that the required funds were spent elsewhere will not suffice. The PM/WSM organization need and deserve timely information that can be provided by a simple expansion of the feedback loop. This expansion is necessary to allow both ASO and the PM/WSM organizations to make the timely and correct decisions that are required to allow the modification process to flow according to schedule while maintaining fiscal and logistical control in an efficient manner.

F. SUMMARY

In this chapter, a brief review of the organizational structure and the controls over the management of modification funds was presented. The problems associated with these organizations and controls and possible recommendations for improvement were also presented.

NAVAIR, as the administering agent for modification funds associated with the aviation community, centers its management control within three divisions; Plans and Programs (AIR-01), Logistics and Fleet Support (AIR-04), and the Comptroller (AIR-08). The interface of these three divisions is important to the successful completion of any modification program.

AIR-412, the administrator for modification funds for spare and repair parts (APN-6) is responsible for the allotment of funds to ASO as the implementing activity. As such, AIR-412 is tasked to coordinate the efforts within NAVAIR to insure that the flow of funds to ASO is adequate to complete the assigned task, and is also responsible for the dissemination of information on ASO progress to the NAVAIR command.

ASO, as the implementing activity for procurement of spare and repair parts to support the modification effort, must translate the dollars

provided by NAVAIR into the material requirements that meet the objective of the modification program. In so doing, they must be able to demonstrate that the spare and repair parts procured are those that are necessary for the program. Additionally, this must be done on a timely basis within the resource constraints provided by higher authority.

Because of the necessity to attain the objectives of the various modification programs that are on-going at any particular point in time, problems have developed in the achievement of adequate spare and repair part support for all programs. The result has been a growth in the number of complaints for support from both the operating units as well as the PM/WSM organizations. The subjects of these complaints are:

- Inadequate control of funds within ASO
- Funding provided too early with no definitized requirement
- Temporary reprogramming of funds tends to become permanent
- Lack of understanding by the IMs at ASO
- Inadequate feedback of information to PM/WSM.

The author provided recommendations which were felt to be necessary to improve the management control of modification funds. These recommendations are:

- Control funds more efficiently at ASO
- Reduce front-end funding of APN-6 modification funds
- Increase the level of knowledge and understanding of the IMs
- Expand and improve the feedback of information.

Chapter V will tie together the presentation of the previous chapters into a summary of the modification process and what it is supposed to do for the USN. From this, the author will present general conclusions on the process and attempt to predict what the future of modification management will be.

V. SUMMARY AND CONCLUSIONS

A. SUMMARY

Chapter I begins by introducing the reader to the subject of modification management in the aviation community of the U.S. Navy (USN). Additionally, it went on to point out the concern of high levels of USN management in the readiness of the aviation forces today, and that the only way that the USN could maintain the correct readiness posture in the foreseeable future was through the modification process. The author stated, and believes, that the improvement of modification management is essential to the attainment of the readiness posture that is necessary for the USN to achieve the desired level of viable weapon systems. The objectives were stated as:

1. To provide recommendations for improved management control over the limited resources assigned to the modification effort, and
2. To provide a guide for personnel tasked to administer modification funds.

The author feels these objectives have been met by providing the organizational background for the promotion of modification requirements in Chapter II, the concept of the Operational Safety Improvement (OSIP) and Engineering Change Proposal (ECP) programs in the modification effort in Chapter III and the discussion of management of funds and recommendations for improvement in Chapter IV.

The motivation for this thesis for the author was the many agonizing hours spent trying to learn about the inner workings of the modification process while assigned to two different aircraft projects. The data

presented is the best possible correlation of the author's personal background, experience, and beliefs with those who have volunteered much of their time to discuss the subject. The insights and guidance provided by those actually assigned to current aircraft program offices and to modification projects made the author better able to fully understand the total requirements of the process.

Modification of aircraft will remain an on-going process as long as the USN continues to fly airplanes. The criticality of the effort to maintain a viable Naval Air Force will remain a subject of high level management concern as long as the requirement for aircraft exceeds the funding provided. To make up for this shortage of funds, the only feasible solution is the continued modification of aircraft.

The concluding paragraphs will summarize the general conclusions of the author. These include recommendations that supplement those made in Chapter IV.

B. GENERAL CONCLUSIONS

1. There is a Need for Increased Emphasis in the Area of Modification Management

The continuing problems encountered in the area of modification management, have led the author to believe that more emphasis should be placed on the processes that support the program. Additionally, the need for increasing the projected operating lives of current inventory aircraft to supplant the shortage experienced in the past, as well as the foreseeable future, for funds to procure new aircraft leads to the requirement to increase the emphasis on modification management.

While the need for this increased emphasis has been espoused by many Program Manager (PM)/Weapon Systems Manager (WSM) organizations,

little has been done in the past to correct the inefficiencies of the system. A continuation of current practices will result in the perpetuation of cost, schedule, and control slippages.

2. Cooperation is Essential to the Success of the Modification Program

To successfully complete a modification program, cooperation between all concerned parties is essential. This is required so that the appropriate trade-offs between technical advancement and supportability, reliability and maintainability, and cost and schedule can be made. This requires the close interface and cooperation between the various disciplines of logistics support, engineering support, research and development, and the PM/WSM offices. A failure to achieve the required level of cooperation will ultimately lead to the unsuccessful modification of aircraft and the unsupportability of those that are modified.

It is the author's opinion that to achieve the necessary degree of cooperation in the modification effort, early identification of all concerned parties should be stressed. By involving the logistics personnel at the beginning of the modification process, earlier definitization of requirements could be achieved, and funds appropriated for the modification program could be expended in a timely and logical manner. If nothing else, this should improve the climate that exists in ASO in regards to the expenditure of MOD funds on programs for other than which they were appropriated.

3. Modification Follow-on (MOD FO) Funds Should be Funded Separately from Normal Replenishment Accounts

The funding of MOD FO and normal replenishment together in the same account has led to the expenditure of MOD funds to accomplish normal replenishment of spares lost through attrition and age. A continuation of

this practice will lead to the perpetuation of the shortage of MOD FO funds to procure the necessary spare and repair parts to meet the modification program objectives.

To achieve the desired separation, the author recommends that the funds for MOD FO be "fenced" when received from NAVAIR. The fencing of the funds would preclude the shifting of funds from the MOD FO account to the replenishment account, but would still allow the flexibility to shift funds within the MOD account to meet the timing differences encountered during the receipt and expenditure processing. As long as the total accountability is maintained within the MOD FO account, the shortage of MOD funds encountered under today's practice should not present a problem.

4. There is a Need for Increased Modification Management Educational Efforts

As stated in the previous chapter, improved modification management could be achieved by better educating those involved in the process. Several methods are recommended to further the education of those involved:

- a. In-house training sessions by those who know and understand the process and know how to make it work,
- b. Briefings by the PM/WSM organization to facilitate the cooperation, coordination, and communication of the modification program,
- c. Greater involvement in the Integrated Logistic Support Management Team (ILSMT) meetings by all participating activities, and
- d. Utilization of outside contractors to facilitate the growth of knowledge necessary to permit the successful completion of modification efforts.

In brief, all of these efforts should be emphasized so as to preclude the loss of corporate knowledge and to enhance the stature and viability of modification management.

5. There is a Need for Increased Awareness of the Modification Programs Within the USN

Currently, the only people who know and understand the modification management programs on-going in the USN are those that are intimately involved in them, or those who are required to testify before Congress about them. It is the author's opinion that the awareness of these programs should be enhanced so that others could become more aware of them and possibly provide support for the program. The normal taxpayer would be interested in knowing where the billions assigned to the Department of Defense (DOD) are going. However, the only thing that is normally presented to the taxpayer are the reports that show that this fighter costs \$25 million per copy or that this support aircraft cost \$46 million per copy. Nothing is ever published that shows that the USN saved the taxpayer \$2 billion by modifying a certain aircraft rather than procuring a new line of hardware. The author believes that the support this type of effort could generate would surely enhance the posture of the modification management programs and promote the attainment of the programs in a more efficient manner.

6. There is a Need for Additional Study in the Area of Modification Management

In the author's research, there was very little to be found in the area of written research relating to the area of modification management. Several areas are open to additional research.

a. Research is necessary in the area of comparing the actual expenditures made at the various logistics activities tasked with implementing the ECP against the expenditures that were planned by the PM/WSM and accounting for any differences.

b. Further study is needed in the area of personnel training and management of people involved in the modification process to promote the development of skills needed to work in the modification management field.

c. Additional study is necessary in the area of requirements determination by the PM/WSM organizations to insure that the requirements developed by these organizations are truly those required for the modification effort and not just "nice to have" items. This is most important in times of austere budget funding.

d. Additional research should be attempted in the area of formulating ASO's budget to correctly reflect the actual MOD FO requirement by aircraft type. The current structure does not attempt to provide this information which is a necessity for the IM to know that the MOD funds are actually budgeted for the equipment or system he is tasked to support.

C. CONCLUSION

This thesis has provided an overview of the modification management process that exists for the aviation community. Additionally, it can be used as a guide for the general process that exists in the USN and lead the reader to more in-depth personal study.

The necessity for modification management has never been more prevalent than it is in today's Navy. The efficient management of the process is dependent on the people who serve in the positions that project and guide the implementation of the modification programs. The main priority for everyone involved is to talk to each other and derive the best possible plan by which the objective of the program can be met. As Vice Admiral Forrest S. Petersen, USN, former Commander, Naval Air Systems Command stated:

"... There are no easy solutions to these challenges. I am convinced that these challenging management tasks will not be solved by more detailed procedures and micro-management but by better communication (both formal and informal) among professionals." [Ref. 25:107].

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APPENDIX A

NAVAIR NOTICE 4000; OPERATIONAL AND SAFETY IMPROVEMENT PROGRAM ITEMS FOR THE AIRCRAFT MODIFICATION BUDGET FOR FISCAL YEAR 1983



DEPARTMENT OF THE NAVY
NAVAL AIR SYSTEMS COMMAND
WASHINGTON, D.C. 20361

IN REPLY REFER TO

Canc frp: Dec '81
NAVAIRNOTE 4000
AIR-102B:MJP
27 Aug 1980

NAVAIR NOTICE 4000

From: Commander, Naval Air Systems Command

Subj: Operational and Safety Improvement Program (OSIP) Items for the
Aircraft Modification Budget for Fiscal Year 1983; submission
of (Report Symbol NAVAIR 4000-10)

Ref: (a) NAVAIRINST 4000.3A of 9 Feb 1976

Encl: (1) OSIP Justification Formats
(2) Currently budgeted FY 1983 Programs

1. Purpose. This notice requests submission of Operational and Safety Improvement Program (OSIP) items for inclusion in the aircraft modification budget for fiscal year 1983 (FY 83).

2. Cancellation. NAVAIR Notice 4000 of 14 September 1979 is superseded.

3. Background. OSIP items are submitted to the Chief of Naval Operations (OP-506) each year for planning, programming, and budgeting for the modification and modernization of in-service aircraft weapon systems and power plants. Naval Air Systems Command policy and procedures for submission of OSIP items are established by reference (a).

4. Policy and Planning Guidance. The following policy and planning guidance has been provided by the Chief of Naval Operations (CNO (OP-50)):

a. The planning base for all proposed aircraft modification programs and funding alternatives to be considered during tentative program objectives memorandum (TPOM) 83 will be the October FYDP update as amended by decision package set (DPS) actions. Appropriate offices will be notified when DPS actions are promulgated.

b. Costs for all programs must be submitted in base FY 82 dollars for FY 83 and subsequent years.

c. Modification programs shall be planned for completion within a maximum of five years from initial installation year.

d. The quantities of aircraft to be modified should be within the active aircraft inventory as reflected by Exhibit A-II, U.S. Navy Aircraft Inventory (available in AIR-102), for the year that kits will first be available for installation.

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e. Aircraft modifications scheduled for in-house installation (NAVAIREWORKPAC) should reflect maximum installations during standard depot level maintenance (SDLM) utilizing the schedules contained in Exhibit A-VII, U.S. Navy Aircraft Estimated Reworks (available in AIR-102). However, due to the increasing interval between SDLM's and the numbers of aircraft on extended tours, the most economical combination of field teams and drive-in mod programs should be planned to augment SDLM installation where necessary to ensure completion within the five-year limitation.

f. Component modification programs must be structured to conform to the rework schedule for that component. If more components are required for the modification schedule than will be available by the rework schedule, the source of those additional components must be identified. In programs which require a component change(s) as well as an airframe change, the component change(s) must be listed separately.

g. All new programs must be well defined and capable of standing alone. In cases where common equipment (e.g., AN/ARC-159 radio) is being put in more than one type/model of aircraft, a separate program must be established for each aircraft as shown by P-1 line items in the budget.

h. Increased emphasis is being placed on elimination of concurrency. When approval for service use (ASU) is necessary, it must be received no later than second quarter FY 1983 to be considered eligible for FY 1983 APN-5 funds.

i. Program Coordinators in OP-506 will specify by speedletter to the PMA/APC/WSM which programs are to be submitted to OPNAV for TPOM-83. After submission of these programs, other programs may also be proposed via the PMA/APC/WSM by separate correspondence for OPNAV consideration.

5. Budget guidance. The following budget guidance is provided by the Comptroller (AIR-805):

a. New programs are to be structured on a fully funded basis (one complete year at a time).

b. All installation costs, whether contractor or in-house, are to be budgeted in the year of installation and are chargeable to O&MN.

c. Service Life Extension Program (SLEP) studies and analytical rework studies for out-of-production aircraft modifications are chargeable to O&MN if the effort involves extending the useful military life within the current performance envelope, and to RDT&EN if the effort involves redesign of an item to increase the current performance envelope.

d. Contractor engineering technical services (CETS) are chargeable to APN-5 for contractor-to-contractor services only. CETS for contractor-to-Navy effort (support of the Fleet) are chargeable to O&MN.

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27 Aug 1980

e. The initial Integrated Logistic Support (ILS) Plan is funded under APN-5.

f. Standard depot level maintenance (SDLM) costs are chargeable to O&MN.

g. In-house test and contractor tests are to be shown on separate line items in the budget back-up and are not to be included in the nonrecurring line.

h. Training material, trainer modification, ground support equipment, and publications are funded by APN-5 when they are peculiar to the modification program. When an item is being procured for production aircraft as well as retrofit, the production program (APN-1 to 4) funds this support. Factory training is chargeable to O&MN.

i. A statement must be made under Development Status about PASU/ASU. If it is required, give estimated date for receipt of PASU/ASU, number of TEMP and P.E. number of RDT&E program, if applicable. If it is not required, state "No ASU required."

6. Action. The following action is assigned:

a. Upon receipt of speedletters from OPNAV (OP-506), Project Managers/Coordinators and Weapon System Managers will have detailed OSIP's prepared in the format of enclosure (1) (using legal size paper like the current budget submission).

b. All AIR-05 functional division inputs will be coordinated by AIR-5122B.

c. All AIR-04 functional division inputs will be coordinated by AIR-4105C7.

d. Two advance copies of all OSIP's will be forwarded to AIR-102 as working papers as soon as possible but not later than 9 October 1980.

e. AIR-102 will initiate program reviews with the PMA/APC/WSM, cognizant functional area personnel, and AIR-805 prior to submission of the proposed OSIP items to OPNAV.

f. On-going programs identified in enclosure (2) already in the FY 82 budget, will be updated separately as requested by AIR-102.

g. Deadline for submission to OPNAV is 27 October 1980.

7. Report. Report Symbol NAVAIR 4000-10 applies to the reporting requirement in this notice.

NAVAIRNOTE 4000
27 Aug 1980

8. Cancellation Contingency. When superseded by a revision.



R. W. MCFERREN
By direction

Distribution: (FKALA (established quantity), Others 5 copies each)
FKALA (Deputy Commander; Assistant Commanders; Designated Project
Managers and Project Coordinators; Office and Division Directors);
FKR1B (Weapon System Management Office (Code 05), Jacksonville, FL
32212; Weapon System Management Office (Code 05), Norfolk, VA 23510;
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CA 92135; Weapon System Management Office (Code 05), Alameda, CA
94501; Weapon System Management Office (Code 05), Pensacola, FL 32508)
Copy to:
A4A; FKALA (AIR-9701 (10 copies), AIR-9701A (40 copies), AIR-102
(25 copies), AIR-08, AIR-805, AIR-00X, AIR-59, AIR-512, AIR-5122B,
AIR-410, AIR-4105C7, AIR-4123); FKR7E
Stocked at NAVAIR HQ (AIR-9701A)

APPENDIX B

MISSION AND FUNCTION OF THE AVIATION PLANS AND REQUIREMENTS DIVISION

OP-50 AVIATION PLANS AND REQUIREMENTS DIVISION

Mission: To implement the responsibilities of DCNO (Air Warfare) pertaining to the preparation of plans, tactical doctrine and the definition of requirements to provide for naval aviation forces (including the Naval Air Reserve) and their logistic support. Included is the preparation of budgets and their sponsorship and coordination with pertinent offices to provide for integration into the overall Navy program planning system.

Functions:

1. Prepares plans within the framework of approved policies, to provide required aviation forces and their support. (OP-508)
2. Develops and formulates requirements for naval aircraft, naval aviation weapons, aircraft carriers, specified aviation type ships and associated aeronautical equipment, including their material readiness, to fulfill Navy objectives and to support warfare plans and programs. (Ship-board equipment and systems for control and navigation of aircraft in approach and landing phases of operations at sea are excluded from this functional responsibility). (OP-506)
3. Prepares requirements for aviation programs and coordinates other requirements pertaining to the appropriations and budget activities sponsored by the DCNO (Air Warfare) and supports these requirements before the various military and civilian budgetary reviewing agencies. (OP-501/506/508)
4. Provides technical cognizance for the conduct of OPNAV review of aircraft tactical manuals and takes the necessary action to keep them current. (OP-506)
5. Establishes the operational characteristics of air weapons systems required to meet approved plans. Initiates changes required by changes in plans or in probable threats. Initiates action to upgrade or extend operational capabilities of existing air weapons systems. (OP-506)
6. Provides program coordination, as defined in the Navy Programming Manual, for all air programs assigned to DCNO (Air Warfare) for sponsorship. (OP-506)

7. Provides liaison with the Director, RDT&E on matters affecting aviation programs. (OP-506)

8. Determines air launched nuclear weapons requirements and monitors readiness of naval air units to maintain and deliver nuclear weapons. (OP-506)

9. Provides liaison with the Office of the DCNO (Logistics) on matters affecting air launched weapons expenditures. (OP-506)

10. Provides liaison for aircraft engine configuration requirements in support of DCNO (Air Warfare) responsibilities in the pollution abatement program. (OP-506)

11. Coordinates with other offices for integration of aviation plans, programs and requirements into overall Navy plans, programs and requirements. (OP-508)

12. Coordinates with other offices in the formulation of joint, international and Navy plans and policy matters affecting naval aviation. (OP-508)

13. Advises the DCNO (Air Warfare) on the most effective uses of aviation forces. (OP-508)

14. Monitors assigned aviation plans and requirements and coordinates with OP-59 in order to ensure their timely and complete fulfillment. (OP-506/508)

15. Advises the DCNO (Air Warfare) on policy matters affecting the fulfillment of his mission, and prepares positions on policy matters affecting naval aviation. (OP-501/506/508)

16. Assists in the development of plans and requirements for aircraft and related material for the Military Assistance Program. (OP-508/506)

17. Conducts a program of staff studies and analyses necessary to provide the foundation for naval aviation plans and programs. (OP-501/506/509)

18. Develops and coordinates the formulation of requirements for orderly and effective mobilization planning for naval aviation, including ships, aircraft, facilities, and associated equipments. (OP-508)

APPENDIX C
SAMPLE FORMATS FOR ENGINEERING CHANGE PROPOSAL SUBMISSIONS
FROM NAVAIR INSTRUCTION 4130.1A



DEPARTMENT OF THE NAVY
NAVAL AIR SYSTEMS COMMAND
WASHINGTON, D.C. 20381

IN REPLY REFER TO
5302F3/KL
Ser 7.2534

SAMPLE REQUEST FOR ENGINEERING CHANGE PROPOSAL

From: Commander, Naval Air Systems Command
To: Commander, Naval Aviation Logistics Center, Code 310
Patuxent River, Maryland 20670

Subj: Model F-14A, Arresting Gear Stinger Shank Trunnion Stop, Request for ECP

Ref: (a) NAVAIRWORKFAC msg 291541Z Oct 79

1. Reference (a) engineering investigation of an F-14 stinger shank failure during arrested landing attributed crack origins to damage caused by stinger shank lugs impacting the trunnion stops. Damage occurs due to jamming of the arresting hook during rollback following arrestment. Approximately twenty stinger shanks, including the failed shank of reference (a), have sustained this type of damage and have been subjected to blending of the damage lug area, magnetic particle NDI, and pull testing prior to reissue.
2. Discussions between NAVAIREWORKFAC, Norfolk, GAC, and NAVAIR to resolve the problem of shank and trunnion stop impact damage have been principally directed towards redesign of the trunnion stops. The latter involves replacement of the current integral stops with detachable sacrificial stops which move the impact area away from the critical lug area, improve load capacity, and provide for lower hardness stop material to further preclude shank or trunnion damage.
3. It is requested that NAVAVNLOGCEN assign NAVAIREWORKFAC, Norfolk to submit to NAVAIR by 15 January 1980 an Engineering Change Proposal (ECP) governing the redesigned stinger shank trunnion stops for both retrofit and production aircraft. The ECP should carry an urgent priority in order to preclude further damage to stinger shanks which affects both fleet readiness and safety of flight.
4. This ECP is to be sponsored by CAPT R. D. Johnson, PMA-241, autovon 222-8283 with the following cognizant engineers: Mr. M. Dubberly, Code AIR-5302F/Mr. K. Leikach, Code AIR-5302F3, autovon 222-3593 (NAVAIR) and Code 31310, autovon 690-8411 (NAVAIREWORKFAC, Norfolk).
5. AIR-05 NESO board member concurs.

NOTE: Requests for ECPs pertaining to aircraft electrical or electronic systems/equipment used to process classified information shall cite applicable test criteria when a TEMPEST impact is identified. (TEMPEST refers to control of compromising emanations and the suppression thereof).



DEPARTMENT OF THE NAVY
NAVAL AIR SYSTEMS COMMAND
WASHINGTON D C 20361

IN REPLY REFER TO
NAVAIRINST 4130.1A

ECP COVER SHEET

From: CCB Chairman
To: _____

Instructions for Processing Class I Engineering Change Proposals and Requests for Major/Critical Deviations or Waivers

ECP/RFDW Number: _____

Contractor/Naval Activity: _____

A. Immediately upon receipt of the attached ECP/RFDW, the project manager/coordinator or cognizant AIR-OS Division Director when no PMA/PC exists, is directed to:

1. Conduct a preliminary review with codes affected to determine if the ECP/RFDW is required, acceptable, and fundable where applicable.

a. If GO, establish a CCB Action Deadline Date and document same by a decision memorandum to codes affected, info: AIR-0104. (See EXHIBIT IV-D of NAVAIRINST 4130.1A for sample decision memorandum and distribution.)

NOTE: Target for decision and implementation:

24 hours for EMERGENCY ECPs
15 days for URGENT ECPs
45 days for ROUTINE ECPs

Requests for deviations or waivers shall be processed according to need/circumstances but normally within 45 days.

Direct appropriate code to initiate CCB Change Request/Directive, NAVAIR Form 13050/2, in accordance with EXHIBIT IV-G of NAVAIRINST 4130.1A.

b. If NO GO, direct release of correspondence to the ECP/RFDW originator, indicating disapproval, info: AIR-0104. (See EXHIBITS IV-E and IV-F of NAVAIRINST 4130.1A for sample ECP disapproval letter.)

c. If additional ECP information is required, direct release of correspondence to ECP originator.

NOTE: Codes desiring additional ECP information shall draft correspondence for release by code that requested the original ECP, with copy to AIR-0104.

Upon receipt of required information, action shall be taken per a. above.

B. Coordinated CCB Change Requests/Directives must be delivered to AIR-0104 before 1100 hours on the Friday preceding the CCB Action Deadline Date, to allow for reproduction and distribution prior to CCB meetings.

CHARLES A. PHILLIPS
CAPT., USN



DEPARTMENT OF THE NAVY
NAVAL AIR SYSTEMS COMMAND
WASHINGTON, D C 20381

IN REPLY REFER TO
NAVAIRINST 4130.1A

SAMPLE AIRFRAME ECP AND GFE COMPONENTS ECP DISAPPROVAL LETTER

From: Commander, Naval Air Systems Command
To: Blank Aircraft Corporation (Address)
Via: Naval Plant Representative

Subj: Contracts N00019-79-C-0550 and N00019-79-C-0086, F-112 Aircraft;
Engineering Change Proposal GR-F-112-9999, "Fuel Quantity System
Junction Boxes, Installation of"

Ref: (a) BLK ltr w/NAVPRO endorsement dated 1 May 1979

1. Engineering Change Proposal GR-F-112-9999, "Fuel Quantity System Junction Boxes, Installation of," submitted as enclosure (1) reference (a) has been considered by the Naval Air Systems Command and is hereby disapproved. The improved capability or utility proffered, when weighed against the requirement and/or the service status of the aircraft, does not justify the cost.

2. The contractor's initiative exhibited and efforts expended in preparing the change proposal are appreciated.

SIGNATURE
(Requesting/Cognizant NAVAIR code)
By direction

Copy to
Project Manager
Assistant Project Manager/Project Officer/
Project Coordinator
Material Acquisition (ESA-20)
Cognizant Engineer (AIR-512/533/536)
CCB Secretariat (AIR-0104)
AIR-04 Change Control (AIR-41050)
(Other Codes Affected, e.g., ASO, NAVAIRTECHSERVAC, NAVAVNLOGCEN, etc.)

NOTE: List "Copy to"
codes on Command
copies only.

(For GFE components and other commodity areas, furnish copies to agencies concerned.)



DEPARTMENT OF THE NAVY
NAVAL AIR SYSTEMS COMMAND
WASHINGTON, D.C. 20361

IN REPLY REFER TO
NAVAIRINST 4130.1A

SAMPLE ECP DISAPPROVAL LETTER FOR USE WHEN DEFECT IS INVOLVED FOR
AIRFRAME GFE COMPONENTS

From: Contracting Officer, Naval Air Systems Command
To: Blank Corporation (Address)
Via: Naval Plant Representative/NAVPRO/AFPRO-OCAS, etc.
(Address if different than above)

Subj: Contracts N00019-79-C-0550 and N00019-79-C-0086, Model F-112, -A and -B
Aircraft; ECP No. EV-F-112-123, "Deletion of Rudder Tab"

Ref: (a) GRIT let CTR. 1265 of 15 May 1979 with NAVPRO Endorsement of
18 May 1979

1. The subject Engineering Change Proposal (ECP), submitted by reference (a), is considered to be required to correct a failure to conform to contract requirements.

2. No objection is interposed to the subject ECP from an engineering standpoint. However, it is not desired that the correction here involved be accomplished in the articles delivered, or to be delivered, under the subject contract(s).

3. Accordingly, the following action is hereby requested.

a. Undelivered Articles. If acceptable to the contractor, the Government will waive its rights to require correction, subject to negotiation of an equitable reduction (contract price*), (fixed fee**), (target cost and target fee***). The contractor is requested to submit, within ninety (90) days, a proposal for such adjustment.

b. Delivered Articles. Pursuant to the terms and conditions of the subject contract(s), the contractor is hereby notified of the Government's determination not to require correction. The contractor shall submit, within ninety (90) days, a proposal for an equitable reduction in (contract price*), (fixed fee**), (target cost and target fee***).

SIGNATURE
Contracting Officer
Naval Air Systems Command

UNCLASSIFIED

(SEE EXHIBIT IV-G, NAVATRINST 4130.1A)

1. Organization Grumman Aerospace Corporation NY-2-26-281 301-119
2. Product or Service APR-120/23 Radar WRA-37 Mod to Prevent Radar Pervoy (Model - 2C Aircraft)
3. Date of Report 14/02/70 20730 21 Oct 73 Corr. of Deficiency - Contr. Resp.
4. Report Number 140120 20730 21 Oct 73 Corr. of Deficiency - Contr. Resp.
5. Report Title (a) GAC Ltr CTR/979-5769 of 9 Sept. 1979 with NAVJRSO 3rdpage Ltr End Ser ES-1712 of 17 Sept. 79.

[illegible]

PROBLEM: The radar occasionally reverts from "STANDBY" to "ON" upon initial turn-on. This is caused by transients that activate an overload circuit.

SOLUTION: Addition of an RC network as proposed by this ECP will eliminate the transients.

TRANSMISSION OF INFORMATION

AIR-21412: IAW Ref (a) issue OGDN for 57 kits for modification of E-2C aircraft, technical directive, non-recurring engineering and associated drawings.

AIR-410182: Issue call letter. Order 20 kits for modification of spares.

AIR-554: Order ground support equipment changes.

AIR-4113C: Order training/trainer modifications.

14. PREPARED (OPTIONAL) When Under Letter and/or Document Status									
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6	6	6	6	6	6	6	6	6	6
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48	48	48	48	48	48				

UNCLASSIFIED

801-119

A. PRIOR INFORMATION AND PURPOSES (Include all prior information and purposes)						B. INFORMATION FOR EVALUATION (Include all information for evaluation)	
ACTIVITY	DATE	DESCRIPTION	REMARKS	TOTAL	REMARKS	REMARKS	
1	10/1/79	NICP					
2	10/1/79	NICP					
3	10/1/79	NICP					
4	10/1/79	NICP					
5	10/1/79	NICP					
6	10/1/79	NICP					
7	10/1/79	NICP					
8	10/1/79	NICP					
9	10/1/79	NICP					
10	10/1/79	NICP					
11	10/1/79	NICP					
12	10/1/79	NICP					
13	10/1/79	NICP					
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100	10/1/79	NICP					

SAMPLE

CCB CHANGE REQUEST SUPPLEMENT
GOVERNMENT-PLANNED/ISSUED EQUIPMENT (GPE), ACTIVE CONTRACTS
NAVJAG FORM 1 (REVISED APRIL 1977)

(Provide this form for Amendment, Interchange, Addition, and the associated changes, and for request when appropriate, and return to CCB Change Request.)
SUBJECT OF CHANGE AND CLASSIFICATION OF SUBJECT

APS-120/125 Radar, JEA 37 Modification

UNCLASSIFIED

CCB NO. 001-119

The contents of this Change Request shall be maintained for the security of the information provided and shall remain the property of the original modification commandant upon its submission to the appropriate commandant for review and placement on the Compliance Change Control Board (COCB) system.

EFFECT ON CURRENT ACTIVE CONTRACTS

(Breakdown information, if appropriate, by item, by item, by item, and other items.)

CONTRACT NUMBER	ITEM NO.	AIRCRAFT (Model)	Fiscal Year	2PS QUANTITY	UNIT PRICE	TOTAL PRICE	FUNDS RESERVED (Funds Reserved, Amount)
N19-79-C-0345	1	E-2C FY 79 5 Kits		<u>RETROFIT</u>			
	</						

REVISIONS SHOULD BE MADE TO THIS FORM AND COMPLETE

UNCLASSIFIED

CCB CHANGE REQUEST SUPPLEMENT
 GOVERNMENT-FURNISHED EQUIPMENT (GFE), COMPLETED CONTRACTS
 NAVJAG FORM 108/22 (REV. 12-77)
 (Prepare this form for Airframe, Landing Gear, Armaments and the component
 changes, except engine, and attach to CCB Change Request)

UNCLASSIFIED

CCB NO. 801-119

SUBJECT OF CHANGE AND CLASSIFICATION OF SUBJECT

APS-120/125 Radar, WRA 37 Modification

The originator of the Change Request shall be responsible for
 the accuracy of the information provided and shall obtain the
 concurrence of the aircraft manufacturer's representative prior to
 submission to the appropriate component commandant for review
 and placement on the Component Change Control Board
 (CCCB) agenda.

EFFECT ON MODIFICATION PROGRAM (Classified contracts LA, all others unclassified)
 (Provide information, as appropriate, between NAVJAG, Air Force, and other users)

GFE CONTRACT NUMBER	ITEM NO.	Equip. Installed by FY and Kit	QUANTITY			UNIT PRICE	FUNDS RESERVED Modification Component's Signature
			SPARES	TRAINING	OTHER		
			<u>RETROFIT</u>				
N19-75-C-0345	1	E-2C FY 75 5 Kits				\$5000	/s/ S. Savas AIR-102
			<u>SPARES</u>				
N19-75-C-0345	3		5 Kits			5000	/s/ W. F. Brown AIR-412
			<u>TRAINERS</u>				
N19-75-C-0345	5			2 Kits		2000	/s/ L. Barks AIR-413
Total						\$ 12000	
Total would be entered in Block 30 of 13050/2							
NOTE: Sample only. GFE Mod was not required for this CCB.							
SIGNATURE OF PREPARER		CODE		TELEPHONE NO.		DATE	

PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE

UNCLASSIFIED

COST AND FUNDING SUMMARY

ECF/NAAC No. CR-210-281		Logistics Manager AIR-410182		CDB No. 801-139		
ECF/NAAC/Originator Grouman Aerospace Corp.		Equipment N/A		TD No. JNC		
ECF/NAAC Sponsor AIR-39-31		OSIP No. N/A		TD Category Routine		
ELEMENT	TASKED ACTIVITY	TYPE FUNDING	15-YEAR (FY 80) FUNDING		3RD YEAR (FY 81) FUNDING	
			COST	OSIP FUNDING BGM DIT	COST	OSIP FUNDING BGM DIT
1. RETROFIT - NON RECURRING	GAC	NICP				
2. TECH DIB PREP	First	N/A				
3. TECH DIB VERIFICATION	RPFSO	APN-1	350			
4. TECH DIB PRINT & DISTR	In Progress	APN-1				
5. DRAWINGS	GAC	ASO	2,200			
6. SUPPLY DATA	N/A					
7. TOOLING						
8. RETROFIT - RECURRING						
9. TOOL RISE	N/A	NICP				
10. RISE FOR BASIC EQUIPMENT	GAC	N/A				
11. MOD OF BASIC EQUIPMENT	ALND					
12. 12R						
13. LOGISTICS SUPPORT	GAC	APN-1	1,110			
14. 14R EMI NAME	DEV 1026	APN-1	17,740			
15. MOD OF NAME	N/A	N/A				
16. RISE FOR WEST-001	GAC	APN-1				
17. MOD OF WEST-001	GAC	APN-1				
18. RISE EMI SPARES	CLAMP	APN-1	8,000			
19. MOD OF SPARES	N/A					
20. NEW SPARES						
21. 21R PARTIAL						
22. TECH MANUALS PREP	GAC	APN-1	10,840			
23. INCIPIENTATION IN PNG & DISTR	RPFSO	APN-1	2,000			
24. MAINT NAME PLAN	N/A					
25. INCIPIENT SUPPORT	N/A					
26. SUPPORT EQUIPMENT	GAC	APN-1	2,490			
27. SUPPORT EQUIPMENT SPARES & REPAIR PARTS	N/A					
28. NEW START DATA PLUS DEPT INTERSERVICING	N/A					

PREPARED BY: **D. Moore** CODE: AIR-410182 11/18/79 DATE: 1/24/80
 NAVAIR FORM 1305/1A (REV 8 78) APPROVED BY: **Verdon** CODE: R-41018

MILESTONE CHART

ECF/PROJECT No. CB-22C-781		Logistics Manager AIR-410132		CCB No. 801-119	
ECF/PROJECT Originator Crampton Aerospace Corp.		Equipment VBA-37 Mod (Rader Bevet)		TO No. AVC	
ECF/PROJECT Sponsor		OSIP No. N/A		TO Category Routine	
ELEMENT	START DATE	END DATE	STATUS	CV	CV
1. PROCUREMENT	8010101	8010101	COMPLETED	1	1
2. CONSTRUCTION					
3. TESTING					
4. PRODUCTION					
5. RETROFIT					
6. DELIVERY					
7. SUPPORT					
8. MAINTENANCE					
9. DISPOSAL					
10. REPAIR					
11. MODIFICATION					
12. UPGRADE					
13. REPAIR PARTS					
14. REPAIR PARTS					
15. REPAIR PARTS					
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100. REPAIR PARTS					

REMARKS

NAVAIR FORM 1305/16 (REV. 8/78)

Previous issues of this form are obsolete

SAMPLE ASO BUDGET FOR APN-6 MOD
INITIAL/REPLENISHMENT ACCOUNTS

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ALLOTMENT		AS OF 0730 MONDAY 08-02-81				STATUS OF FUNDS REPORT							
FY81 APR 6 REPL		DAY 01039 PERCENT OF FY - 35.8				COLLARS IN THOUSANDS							
ACC	DESCRIPTION	ANNUAL OBLIG PLAN	OBLIG AUTH RECD	OBLIG TO DATE	UNOBL BAL	UNPL PCT	COMMIT TO RECD	CUMIT DATE	UNCOM BAL	OUTSTG COMMIT	OUTSTG INITS	TOTAL OUTSTG	TOTAL O C I
YR70A	A-4	7639	6765	780	5985	10.2	6765	1141	5624	361	909	1341	2121
YR70B	F-4	19996	19287	744	18543	3.7	19287	17071	7216	11327	7543	19270	20014
YR70M	M-1	9024	7908	3402	4596	37.6	7908	4391	403-	4889	506	5495	8867
YR70H	M-2	12577	11116	1728	9410	13.7	11146	21848	10702-	20120	7814	27464	24652
YR70N	M-3	3627	3211	664	2547	18.3	3211	1409	1702-	745	1753	2498	3162
YR70M	M-4	10263	9076	909	8187	9.8	9096	2356	6740	1447	2291	3730	4647
YR70N	M-5	10159	8937	1010	7917	9.9	8937	1497	7500	487	4395	4872	5862
YR70Y	ANG-1C	3009	2663	1923	740	63.9	2663	2265	398	342	601	943	2066
YR70A	SCW1 PICA-SICA	50	50	13	37	26.0	50	13	37	0	0	0	13
YR70D	TRNG DEV	41	29	176	147	42.2	29	747	718-	571	853	1429	1605
YR70A	SCW1 MISC	2545	2535	574	2021	22.1	2595	688	1907	114	1102	1216	1710
YR70A	MOD F O	6708	3492	253	3239	3.7	3492	3482	10	3229	6672	9891	10144
*188A	BR MOD FO	8328	0	0	0	0	0	0	0	0	0	0	0
*188B	BR REPLEN	2089	0	0	0	0	0	0	0	0	0	0	0
SUBT SCW1 APA REPL		96104	75319	12176	6314-	12.6	75319	51008	19411	43732	34425	78657	90823
YR70N	J-52	737	737	6160	5723-	876.5	737	6460	5723-	0	0	0	6460
YR70N	J-79	316	316	152	164	49.1	316	152	164	0	0	0	152
YR70N	TF-41	1116	1116	1452	536-	141.0	1116	4290	3174-	2638	1094	3722	5374
YR70N	TF-34	2933	2933	1912	1619-	542.5	2933	2020	1727-	108	818	926	2038
YR70N	AV6-402	190	190	16500	16410-	716.9	190	2023	20033-	3023	119	3192	2032
YR720	TR30P6/18	81	81	167	686-	946.9	81	767	686-	0	26	26	713
YR760	153	15	15	4	11	26.0	15	62	47-	48	0	50	42
YR700	156	276	276	1825	1549-	641.2	276	2516	2242-	143	126	819	2644
YR70Q	158	1479	1479	2611	1132-	176.5	1479	2637	1158-	26	167	193	2804
YR70Q	164	259	259	1553	1394-	633.2	259	1656	1397-	3	266	269	1922
YR70Q	1400	155	155	1281	1126-	826.4	155	1109	1154-	28	17	45	1326
YR70Q	TF30-P4.2	524	524	5275	4751-	6.6	524	5473	5449-	698	317	1015	620
YR70B	SCW2 MISC	55231	39382	6533	32849	11.8	39382	6543	32799-	50	376	426	693
YR724B	MOD F O	0	0	0	0	0	0	0	0	0	0	0	0
YR75B	SCW2 PICA-SICA	4824	4824	2671	2153	55.3	4824	2671	2153	0	0	0	2671
SUBT SCW2 APA REPL		65496	49647	49396	251	75.4	49647	57321	7674-	7925	3366	11291	60687
YR70C	C130	6737	5493	2624	2869	39.9	5493	3168	2325	544	1613	2157	4781
YR70C	A5	3713	3028	0	3028	0	3028	0	3028	0	0	0	0
YR70M	BOW-34	413	335	13	322	3.1	335	60	275	47	66	113	126

ALLOTMENT		AS OF 0730 MONDAY 08-02-81		PERCENT OF FY - 35.8		CONTINUED		STATUS OF FUNDS REPORT			
FY81 APR 6 REPL		DAY 81039		OBLIG		COMMIT		DOLLARS IN THOUSANDS			
ACC	DESCRIPTION	ANNUAL OBLIG	TO UNOBL	DATE	PLN	RECD	DATE	OUTSTG	OUTSTG	TOTAL	TOTAL
		PLAN	PLN					COMMIT	INITI	OUTSTG	OC I
YR7EM	ACW-37	0	0	0	0	0	0	0	0	0	0
YR7GM	ACW-74	206	168	0	0	168	0	0	47	47	47
YR7HT	12	309	251	0	0	251	84	84	0	84	84
YR7JZ	ARC-159	275	214	83	70.1	214	102	112	139	157	240
YR7KZ	APN-52	0	0	0	0	0	0	0	0	0	0
YR7LZ	TACANO	1872	1466	188	10.7	1466	509	986	312	626	930
YR7MZ	APN-151	0	0	0	0	0	0	0	0	0	0
YR7PZ	APN-153	0	0	0	0	0	0	0	0	0	0
YR7QZ	APN-81	67	53	83	123.0	53	106	53	23	256	279
YR7RZ	APN-194	206	168	72	96	168	112	56	40	0	40
YR7SZ	ALQ-126	1739	1008	163	13.1	1008	220	788	57	36	112
YR7TC	SCW3 PL.A-SICA	2366	2368	727	1639	2366	787	1579	60	78	130
YR7UC	MOD F O	1056	375	0	375	375	0	375	0	57	57
YR7VC	SCW3 MISC	16764	15265	4648	10617	15265	6529	8736	1181	12303	14274
YR7WC	BR MOD FO	1175	0	0	0	0	0	0	0	0	0
YR7XC	BR PEPLIN	2200	0	1	1	0	1	1	0	121	122
YR7YD	ATL SCW1	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 PL.A-SICA	417	417	74	343	417	346	71	272	49	321
YR7YD	MOD FO	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4	13815	10893	1672	9221	10893	3435	7458	1763	3507	5150
YR7YD	BR PEPLIN	61	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 APA REPL	14293	11310	1748	9564	11310	3781	7529	2035	3636	5671
YR7YD	ATL SCW1	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 PL.A-SICA	417	417	74	343	417	346	71	272	49	321
YR7YD	MOD FO	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4	13815	10893	1672	9221	10893	3435	7458	1763	3507	5150
YR7YD	BR PEPLIN	61	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 APA REPL	14293	11310	1748	9564	11310	3781	7529	2035	3636	5671
YR7YD	ATL SCW1	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 PL.A-SICA	417	417	74	343	417	346	71	272	49	321
YR7YD	MOD FO	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4	13815	10893	1672	9221	10893	3435	7458	1763	3507	5150
YR7YD	BR PEPLIN	61	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 APA REPL	14293	11310	1748	9564	11310	3781	7529	2035	3636	5671
YR7YD	ATL SCW1	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 PL.A-SICA	417	417	74	343	417	346	71	272	49	321
YR7YD	MOD FO	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4	13815	10893	1672	9221	10893	3435	7458	1763	3507	5150
YR7YD	BR PEPLIN	61	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 APA REPL	14293	11310	1748	9564	11310	3781	7529	2035	3636	5671
YR7YD	ATL SCW1	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 PL.A-SICA	417	417	74	343	417	346	71	272	49	321
YR7YD	MOD FO	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4	13815	10893	1672	9221	10893	3435	7458	1763	3507	5150
YR7YD	BR PEPLIN	61	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 APA REPL	14293	11310	1748	9564	11310	3781	7529	2035	3636	5671
YR7YD	ATL SCW1	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 PL.A-SICA	417	417	74	343	417	346	71	272	49	321
YR7YD	MOD FO	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4	13815	10893	1672	9221	10893	3435	7458	1763	3507	5150
YR7YD	BR PEPLIN	61	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 APA REPL	14293	11310	1748	9564	11310	3781	7529	2035	3636	5671
YR7YD	ATL SCW1	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 PL.A-SICA	417	417	74	343	417	346	71	272	49	321
YR7YD	MOD FO	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4	13815	10893	1672	9221	10893	3435	7458	1763	3507	5150
YR7YD	BR PEPLIN	61	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 APA REPL	14293	11310	1748	9564	11310	3781	7529	2035	3636	5671
YR7YD	ATL SCW1	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 PL.A-SICA	417	417	74	343	417	346	71	272	49	321
YR7YD	MOD FO	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4	13815	10893	1672	9221	10893	3435	7458	1763	3507	5150
YR7YD	BR PEPLIN	61	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 APA REPL	14293	11310	1748	9564	11310	3781	7529	2035	3636	5671
YR7YD	ATL SCW1	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 PL.A-SICA	417	417	74	343	417	346	71	272	49	321
YR7YD	MOD FO	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4	13815	10893	1672	9221	10893	3435	7458	1763	3507	5150
YR7YD	BR PEPLIN	61	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 APA REPL	14293	11310	1748	9564	11310	3781	7529	2035	3636	5671
YR7YD	ATL SCW1	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 PL.A-SICA	417	417	74	343	417	346	71	272	49	321
YR7YD	MOD FO	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4	13815	10893	1672	9221	10893	3435	7458	1763	3507	5150
YR7YD	BR PEPLIN	61	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 APA REPL	14293	11310	1748	9564	11310	3781	7529	2035	3636	5671
YR7YD	ATL SCW1	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 PL.A-SICA	417	417	74	343	417	346	71	272	49	321
YR7YD	MOD FO	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4	13815	10893	1672	9221	10893	3435	7458	1763	3507	5150
YR7YD	BR PEPLIN	61	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 APA REPL	14293	11310	1748	9564	11310	3781	7529	2035	3636	5671
YR7YD	ATL SCW1	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 PL.A-SICA	417	417	74	343	417	346	71	272	49	321
YR7YD	MOD FO	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4	13815	10893	1672	9221	10893	3435	7458	1763	3507	5150
YR7YD	BR PEPLIN	61	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 APA REPL	14293	11310	1748	9564	11310	3781	7529	2035	3636	5671
YR7YD	ATL SCW1	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 PL.A-SICA	417	417	74	343	417	346	71	272	49	321
YR7YD	MOD FO	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4	13815	10893	1672	9221	10893	3435	7458	1763	3507	5150
YR7YD	BR PEPLIN	61	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 APA REPL	14293	11310	1748	9564	11310	3781	7529	2035	3636	5671
YR7YD	ATL SCW1	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 PL.A-SICA	417	417	74	343	417	346	71	272	49	321
YR7YD	MOD FO	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4	13815	10893	1672	9221	10893	3435	7458	1763	3507	5150
YR7YD	BR PEPLIN	61	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 APA REPL	14293	11310	1748	9564	11310	3781	7529	2035	3636	5671
YR7YD	ATL SCW1	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 PL.A-SICA	417	417	74	343	417	346	71	272	49	321
YR7YD	MOD FO	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4	13815	10893	1672	9221	10893	3435	7458	1763	3507	5150
YR7YD	BR PEPLIN	61	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 APA REPL	14293	11310	1748	9564	11310	3781	7529	2035	3636	5671
YR7YD	ATL SCW1	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 PL.A-SICA	417	417	74	343	417	346	71	272	49	321
YR7YD	MOD FO	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4	13815	10893	1672	9221	10893	3435	7458	1763	3507	5150
YR7YD	BR PEPLIN	61	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 APA REPL	14293	11310	1748	9564	11310	3781	7529	2035	3636	5671
YR7YD	ATL SCW1	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 PL.A-SICA	417	417	74	343	417	346	71	272	49	321
YR7YD	MOD FO	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4	13815	10893	1672	9221	10893	3435	7458	1763	3507	5150
YR7YD	BR PEPLIN	61	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 APA REPL	14293	11310	1748	9564	11310	3781	7529	2035	3636	5671
YR7YD	ATL SCW1	0	0	0	0	0	0	0	0	0	0
YR7YD	SCW4 PL.A-SICA	417	417	74	343						

ALLOTMENT			AS OF 0730 MONDAY 08-02-81			CONTINUED			STATUS OF FUNDS REPORT		
FY81 APR 0 RIPL			DAY 81039 PERCENT OF FY - 15.8						DOLLARS IN THOUSANDS		
ACC	DESCRIPTION	ANNUAL OBLIG	PLANN	TO UNOBL	CBLT	COMMIT	COMMIT	OUTSTG	OUTSTG	TOTAL	TOTAL
		PLAN	REC'D	DATE	PLAN	REC'D	DATE	COMMIT	COMMIT	DATE	DATE
VR24F	MOD F O	1643	150	0	150	0	150	0	0	0	0
*18RG	OR MOD	67	0	0	0	0	0	0	0	0	0
*18RN	OR PEPLIN	4096	0	0	0	0	0	0	0	0	0
SUBT	MLW2 APA REPL	52277	39301	11366	27935	21.7	39301	21013	18288	10647	10647
VR78P	P1	20047	19316	2069	17277	10.3	19346	4452	14994	21013	6517
VR75G	MLW3 P1LA SICA	0	0	1	1	1	0	1	1	1	1
VR73G	MLW3 M1L	1409	1240	211	1008	15.0	1240	260	110	48	347
*18RJ	OR PEPLIN	5349	0	0	0	0	0	0	0	0	0
VR24G	MOD F O	6733	2300	0	2300	0	2300	465	1035	465	0
SUBT	MLW3 APA REPL	33537	22886	2282	20604	6.8	22886	5178	17708	21013	8242
VR7CS	S1	15472	12274	5402	6702	35.4	12274	2371	4103	1879	2669
VR75H	MLW4 P1LA SICA	0	0	0	0	0	0	0	0	0	0
VR24H	MOD F O	0	0	0	0	0	0	0	0	0	0
VR73H	MLW4 M1L	749	206	0	206	0	206	0	206	0	0
*18RN	OR PEPLIN	14	0	0	0	0	0	0	0	0	0
SUBT	MLW4 APA REPL	16214	12410	5492	6910	33.8	12410	2371	5109	1879	2669
VR72J	ATE MLW	0	0	609	609	0	0	717	717	18	0
VR78Y	VAST	1744	3416	295	3121	7.8	3416	491	2925	146	442
VR75J	MLW5 P1LA SICA	0	0	0	0	0	0	0	0	0	0
VR24J	MOD F O	0	0	0	0	0	0	0	0	0	0
VR73J	MLW5 M1L	2284	1654	132	1522	5.9	1654	132	1522	0	71
SUBT	MLW5 APA REPL	1762	5070	1126	3943	19.0	5070	1340	1730	214	514
VR7FA	AB	20177	15337	3632	12305	19.0	15337	7094	10443	1462	5006
VR7FE	EAB	16006	15171	5807	9364	10.5	15171	14741	3570	12414	2610
VR75H	MLW6 P1LA SICA	0	0	0	0	0	0	0	0	0	0
VR73H	MLW6 M1L	570	371	0	371	0	371	67	304	67	0
VR24H	MOD F O	31201	5070	0	5070	0	5070	0	5070	0	0
*18RN	OR MOD	146	0	0	0	0	0	0	0	0	0
*18RN	OR PEPLIN	146	0	0	0	0	0	0	0	0	0
SUBT	MLW6 APA REPL	11224	36549	9439	27110	13.2	36549	25002	10447	10463	37156
											53619
											63018

ALLOTMENT FY81 APR 6 REPL		AS OF 0730 MONDAY 08-02-81 DAY 81039 PERCENT OF FY - 35.8				CONTINUE		STATUS OF FUNDS REPORT DOLLARS IN THOUSANDS				
ACC	DESCRIPTION	ANNUAL OBLIG PLAN	OBLIG AUTH REC'D	OBLIG DATE	TO UNOBL BAL	OBLI NCT	COMIT AUTH REC'D	COMIT DATE	UNCOM PLN IAL	OUTSTG INITI	TOTAL OUTSTG	TOTAL O C I
YR7BE	E2/C2	1044	782	799	17-	76.5	782	1138	356-	339	559	898
YR7EE	E2	23986	18732	2404	18328	10.0	18732	5696	13036	3292	6919	10211
YR7SL	MLW7 PICA-SICA	0	0	0	0	-	0	0	0	0	0	0
YR73L	MLW7 MISC	0	0	0	0	-	0	0	0	0	0	0
YR24L	MOD F O	3731	1275	0	1275	0.0	1275	0	1275	0	3730	3730
*18RP	BR PEPLN	3	0	0	0	0.0	0	0	0	0	0	0
SUBT MLW7 APA REPL		28764	20789	3203	17586	11.1	20789	6834	13955	3631	11208	18042
YR7KA	AV-BA	1283	1061	698	363	54.4	1061	1131	70-	433	507	940
YR7SM	MLW8 PICA-SICA	0	0	0	0	-	0	0	0	0	0	0
YR24M	MOD F O	241	75	0	75	0.0	75	0	75	0	0	0
YR73M	MLW8 MISC	0	0	0	0	-	0	0	0	0	0	0
*18RR	BR PEPLN	33	0	0	0	0.0	0	0	0	2	0	2
SUBT MLW8 APA REPL		1557	1136	698	438	44.8	1136	1133	3	435	507	942
YR7AC	"A" LEDGER	0	0	0	0	-	0	0	0	0	0	0
YR7OC	RECLAMATION	0	0	320	320-	-	0	320	320-	0	0	320
YR718	FIELD	5153	5047	53	4994	1.0	5047	53	4994	0	0	53
YR7SZ	UNMATCHED CQ	0	0	0	0	-	0	0	0	0	0	0
YR768	OP PRESERVE	20845	20845	0	20845	0.0	20845	0	20845	0	0	0
YR788	138/PSC ETC	2279	1973	49	1924	2.1	1973	49	1924	0	0	49
YR7RD	UNDISTRIBUTED	124562	0	0	0	0.0	0	0	0	0	0	0
TOTAL		615939	362944	117448	245496	19.0	362944	211887	151057	94439	153522	247961
											365409	

ALLOTMENT FY80 APN 6 MOD 1		AS OF 0730 MONDAY 08-02-81 DAY 81039 PERCENT OF FY - 35.8				STATUS OF FUNDS REPORT DOLLARS IN THOUSANDS						
ACC	DESCRIPTION	ANNUAL OBLIG PLAN	OBLIG AUTH RECD	OBLIG DATE	UNOBL BAL	CULI PLAN PCT	CUMIT AUTH RECD	COMIT DATE	UNCOM BAL	OUTSTG COMITS	OUTSTG INITIS	TOTAL O C I
XT01B	ICP-ASO	2158	2158	1325	833	61.3	2158	1596	562	271	146	1742
	SUBT FY80 APN 6 MOD 1	2158	2158	1325	833	61.3	2158	1596	562	271	146	1742
TOTAL		2158	2158	1325	833	61.3	2158	1596	562	271	146	1742

ALLOTMENT		FY80 APR 8 REPL		AS OF 0730 MONDAY 08-02-81		PERCENT OF FY - 35.0		STATUS OF FUNDS REPORT		DOLLARS IN THOUSANDS	
ACC	DESCRIPTION	ANNUAL OBLIG	UNBL	PLANN	PLAN	PLAN	PLAN	COMMIT	COMMIT	OUTSTG	TOTAL
		PLAN	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE
XR00A	A-4	0	0	0	0	0	0	0	0	0	0
XR00B	F-4	0	0	0	0	0	0	0	0	0	0
XR00C	H-1	0	0	0	0	0	0	0	0	0	0
XR00D	H-2	0	0	0	0	0	0	0	0	0	0
XR00E	H-3	0	0	0	0	0	0	0	0	0	0
XR00F	H-4	0	0	0	0	0	0	0	0	0	0
XR00G	H-5	0	0	0	0	0	0	0	0	0	0
XR00H	H-6	0	0	0	0	0	0	0	0	0	0
XR00I	H-7	0	0	0	0	0	0	0	0	0	0
XR00J	H-8	0	0	0	0	0	0	0	0	0	0
XR00K	H-9	0	0	0	0	0	0	0	0	0	0
XR00L	H-10	0	0	0	0	0	0	0	0	0	0
XR00M	H-11	0	0	0	0	0	0	0	0	0	0
XR00N	H-12	0	0	0	0	0	0	0	0	0	0
XR00O	H-13	0	0	0	0	0	0	0	0	0	0
XR00P	H-14	0	0	0	0	0	0	0	0	0	0
XR00Q	H-15	0	0	0	0	0	0	0	0	0	0
XR00R	H-16	0	0	0	0	0	0	0	0	0	0
XR00S	H-17	0	0	0	0	0	0	0	0	0	0
XR00T	H-18	0	0	0	0	0	0	0	0	0	0
XR00U	H-19	0	0	0	0	0	0	0	0	0	0
XR00V	H-20	0	0	0	0	0	0	0	0	0	0
XR00W	H-21	0	0	0	0	0	0	0	0	0	0
XR00X	H-22	0	0	0	0	0	0	0	0	0	0
XR00Y	H-23	0	0	0	0	0	0	0	0	0	0
XR00Z	H-24	0	0	0	0	0	0	0	0	0	0
XR01A	SCW1 PICA-SICA	44	95	75	20	170.4	1.3	0	0	0	0
XR01B	TRNG	25570	0	0	0	0	0	0	0	0	0
XR01C	SCW1 MISC	9857	0	0	0	0	0	0	0	0	0
XR01D	MOD PAY/HACK	12028	0	0	0	0	0	0	0	0	0
XR01E	MOD F O	47499	95	56272	56177	118.4	1.3	0	0	0	0
XR01F	SUBT SCW1 APA REPL	47499	95	56272	56177	118.4	1.3	0	0	0	0
XR01G	J-52	0	0	0	0	0	0	0	0	0	0
XR01H	J-79	0	0	0	0	0	0	0	0	0	0
XR01I	TF-41	0	0	0	0	0	0	0	0	0	0
XR01J	TF-34	0	0	0	0	0	0	0	0	0	0
XR01K	AV8-F402	0	0	0	0	0	0	0	0	0	0
XR01L	TF30 P8/P8	0	0	0	0	0	0	0	0	0	0
XR01M	TF30 P8/P8	0	0	0	0	0	0	0	0	0	0
XR01N	TF30 P8/P8	0	0	0	0	0	0	0	0	0	0
XR01O	TF30 P8/P8	0	0	0	0	0	0	0	0	0	0
XR01P	TF30 P8/P8	0	0	0	0	0	0	0	0	0	0
XR01Q	TF30 P8/P8	0	0	0	0	0	0	0	0	0	0
XR01R	TF30 P8/P8	0	0	0	0	0	0	0	0	0	0
XR01S	TF30 P8/P8	0	0	0	0	0	0	0	0	0	0
XR01T	TF30 P8/P8	0	0	0	0	0	0	0	0	0	0
XR01U	TF30 P8/P8	0	0	0	0	0	0	0	0	0	0
XR01V	TF30 P8/P8	0	0	0	0	0	0	0	0	0	0
XR01W	TF30 P8/P8	0	0	0	0	0	0	0	0	0	0
XR01X	TF30 P8/P8	0	0	0	0	0	0	0	0	0	0
XR01Y	TF30 P8/P8	0	0	0	0	0	0	0	0	0	0
XR01Z	TF30 P8/P8	0	0	0	0	0	0	0	0	0	0
XR02A	SCW2 PICA-SICA	3280	4147	3575	472	112.0	1.3	0	0	0	0
XR02B	SCW2 MISC	21511	0	0	0	0	0	0	0	0	0
XR02C	MOD F O	24791	5147	33335	28108	134.4	1.3	0	0	0	0
XR02D	SUBT SCW2 APA REPL	24791	5147	33335	28108	134.4	1.3	0	0	0	0
XR02E	C-130	0	0	0	0	0	0	0	0	0	0
XR02F	A-5	0	0	0	0	0	0	0	0	0	0
XR02G	BQM-34	0	0	0	0	0	0	0	0	0	0
XR02H	AQM-37	0	0	0	0	0	0	0	0	0	0

ALLOTMENT FY80 APR 6 REPL		AS OF 0730 MONDAY 08-02-81 DAY 11039 PERCENT OF FY - 35.8				CONTINUED		STATUS OF FUNDS REPORT DOLLARS IN THOUSANDS					
ACC	DESCRIPTION	ANNUAL OBLIG PLAN	OBLIG AUTH RECD	OBLIG DATE	UNOBL BAL	ONLY PLAN PCT	COMMIT AUTH RECD	COMMIT DATE	UNCOM BAL	OUTSIG COMMIT	OUTSIG INITIS	TOTAL O C I	TOTAL O C I
	SUBT MLW2 APA REPL	27022	0	50225	30225-	109.6	0	30460	30460-	235	145	380	30605
XRBP	P-3	0	0	13573	13573-	-	0	13826	13826-	253	631	884	14457
XR3G	MLW3 PICA-SICA	240	0	0	0	0	0	0	0	0	0	0	0
XR3Q	MLW3 MISC	8921	0	277	277-	3.1	0	277	277-	0	0	0	277
XR6G	MOD PAYBACK	1270	0	0	0	0	0	0	0	0	0	0	0
XR24G	MOD F O	4470	0	3303	3303-	73.8	0	3363	3363-	60	0	60	3363
	SUBT MLW3 APA REPL	14901	0	17153	17153-	115.1	0	17468	17468-	313	631	944	18097
XR7CS	S-3	0	0	23264	23264-	-	0	23453	23453-	189	463	652	23916
XR7SH	MLW4 PICA-SICA	75	0	0	0	0	0	0	0	0	0	0	0
XR24H	MOD F O	4470	0	0	0	0	0	0	0	0	0	0	0
XR7SH	MLW4 MISC	21259	0	0	0	0	0	0	0	0	0	0	0
	SUBT MLW4 APA REPL	25804	0	23264	23264-	90.1	0	23453	23453-	189	463	652	23916
XR7JJ	ATE MLW5	0	0	624	624-	-	0	672	672-	48	120	168	752
XR7Y	WAST	0	0	1335	1335-	-	0	1403	1403-	158	115	273	1668
XR7S	MLW5 PICA-SICA	10	0	0	0	0	0	0	0	0	0	0	0
XR24J	MOD F O	0	0	0	0	0	0	0	0	0	0	0	0
XR7JJ	MLW5 MISC	5004	0	302	302-	5.9	0	311	311-	9	99	108	410
	SUBT MLW5 APA REPL	5094	0	2261	2261-	44.3	0	2476	2476-	215	334	549	2810
XR7FA	A-6	0	0	25519	25519-	-	0	26405	26405-	706	668	1451	27073
XR7FE	EA-6	0	0	23975	23975-	-	0	24094	24094-	119	577	696	24671
XR7SH	MLW6 PICA-SICA	75	0	0	0	0	0	0	0	0	0	0	0
XR7SH	MLW6 MISC	56065	0	63	63-	1	0	77	77-	14	0	14	77
XR7SH	MOD PAYBACK	246	0	0	0	0	0	0	0	0	0	0	0
XR24H	MOD F O	793	0	388	388-	40.9	0	388	388-	0	0	0	318
	SUBT MLW6 APA REPL	57229	0	50045	50045-	87.4	0	50464	50464-	919	1245	2164	52209
XR7EE	C2/E2	0	0	1194	1194-	-	0	1229	1229-	35	79	114	1368
XR7EE	E-2	0	0	30139	30139-	-	0	30380	30380-	241	277	518	30657
XR7SL	MLW7 PICA-SICA	0	0	0	0	0	0	0	0	0	0	0	0
XR7SL	MLW7 MISC	28758	0	0	0	0	0	0	0	0	0	0	0

ALLOTMENT FY80 APR 6 REPL		AS OF 0730 MONDAY 08-02-81 DAY 81039 PERCENT OF FY - 35.8				CONTINUED		STATUS OF FUNDS REPORT COLLARS IN THOUSANDS				
ACC	DESCRIPTION	ANNUAL OBLIG PLAN	OBLIG AUTH RECD	OBLIG TO DATE	UNBL BAL	ORLI PLAN PCT	COMMIT AUTH RECD	COMMIT TO DATE	INCOM BAL	OUTSTG COMMIT	OUTSTG INITIS	TOTAL O C I
XR16L	MOD PAYBACK	54	0	0	0	0	0	0	0	0	0	0
XR24L	MOD F O	2387	0	2312	2312-	96.8	0	2312	2312-	0	0	2312
	SUBT WLW7 APA REPL	31199	0	33645	33645-	107.8	0	33921	33921-	276	356	34217
XR1MA	AV-BA	0	0	436	436-	-	0	478	478-	42	0	42
XR15M	WLW8 PICA-SICA	0	0	0	0	-	0	0	0	0	0	0
XR24M	MOD F O	0	0	0	0	-	0	0	0	0	0	0
XR13M	WLW8 MISC	665	0	17	17-	2.5	0	17	17-	0	0	17
	SUBT WLW8 APA REPL	665	0	453	453-	68.1	0	495	495-	42	0	42
XR11C	P/N PRDC	22968	273083	3174	269909	13.8	273083	3174	269909	0	0	3174
XR2F0	MOD FOLLOW ON	25200	20725	0	20725	0	20725	0	20725	0	0	0
XR20C	RECLAMATION	0	0	269	269-	-	0	269	269-	0	0	269
XR1AC	'A' LCDUER	0	0	57	57-	-	0	57	57-	0	0	57
XR19M	PHRS MOB	10000	0	128	128-	1.2	0	128	128-	0	0	128
XR199	TESTING	0	0	431	431-	-	0	431	431-	0	0	431
XR166	OP RESERVE	23756	0	0	0	0	0	0	0	0	0	0
XR15Z	UNMATCHED C9	0	0	244	244-	-	0	244	244-	0	0	244
XR11B	FIELD	0	468	466	2	-	468	466	2	0	0	466
TOTAL		854881	302260	292101	10159	34.1	302260	300243	2017	8142	4397	304640

ALLOTMENT FY79 APN 6 MOD 1		AS OF 0730 MONDAY 08-02-81 DAY 81039 PERCENT OF FY - 35.8				STATUS OF FUNDS REPORT DOLLARS IN THOUSANDS						
ACC	DESCRIPTION	ANNUAL OBLIG PLAN	OBLIG AUTH RECD	OBLIG TO DATE	CBLI PLAN PCT	COMMIT AUTH RECD	COMMIT TO DATE	UNCOM BAL	OUTSIG COMMIT	OUTSIG INITS	TOTAL OUTSIG	TOTAL UC I
WT018	MOD SPARES	9407	9400	9400	0	99.9	9400	9400	0	0	0	9400
	SUBT FY79 APN 6 MOD 1	9407	9400	9400	0	99.9	9400	9400	0	0	0	9400
	TOTAL	9407	9400	9400	0	99.9	9400	9400	0	0	0	9400

ALLOTMENT		AS OF 0730 MONDAY 08-02-81				STATUS OF FUNDS REPORT			
F79 APR 8 REPL		DAY 81039 PERCENT OF FY - 35 8				DOLLARS IN THOUSANDS			
ALC	DESCRIPTION	ANNUAL OBL 3	OBLIG TO	COMMIT TO	UNCOM	OUTSTG	OUTSTG	TOTAL	TOTAL
		PLAN	RECD DATE	RECD DATE	BAL	COMITS	INITS	OUTSTG	U C I
WR7DA	A-4	0	8000	7870	130	0	0	0	7870
WR7BF	F-4	0	0	5108	5908	0	0	0	5908
WR7CH	H-1	0	0	5636	5636	0	0	0	5636
WR7BH	H-2	0	0	4353	4353	0	0	0	4353
WR7DM	H-3	0	7000	6719	281	0	0	0	6719
WR7NH	H-46	0	0	4729	4729	0	0	0	4729
WR7QH	H-53	0	0	5224	5224	0	0	0	5224
WR7ZY	ARG-1C	0	0	1642	1642	0	0	0	1642
WR7TD	TANG DEV	0	0	1168	1168	0	0	0	1168
WR7JA	SCW1 MISC	0	0	551	551	0	0	0	551
SUBT SCW1 APA REPL		0	15000	41200	29200	0	0	0	44200
WR7EN	J-52	0	10000	14666	4666	0	0	0	14666
WR7NN	J-79	0	0	548	548	0	0	0	548
WR7CN	IF-41	0	0	6081	6081	0	0	0	6081
WR7SN	IF-34	0	0	1838	1838	0	0	0	1838
WR7UN	AV8-F402	0	0	1060	1060	0	0	0	1060
WR7ZQ	TF3DP6/P8	0	0	500	500	0	0	0	500
WR7BQ	153	0	0	10	10	0	0	0	10
WR7DQ	156	0	25000	3059	21941	0	0	0	3059
WR7EQ	158	0	0	8037	8037	0	0	0	8037
WR7FO	164	0	0	594	594	0	0	0	594
WR7HQ	1400	0	0	671	671	0	0	0	671
WR7PQ	TF30 P412	0	0	2910	2910	0	0	0	2910
WR73B	SCW2 MISC	0	0	3191	3191	0	0	0	3191
SUBT SCW2 APA REPL		0	35000	44064	9064	1	0	1	44065
WR7LC	C130	0	0	9123	9123	0	0	0	9123
WR7CJ	A5	0	200	30	170	0	0	0	30
WR7BM	BOM-34	0	0	108	108	0	0	0	108
WR7EM	ADM-37	0	100	0	100	0	0	0	0
WR7FM	ADM-74	0	0	53	53	0	0	0	53
WR7BT	T2	0	0	0	0	0	0	0	0
WR7JZ	ARC-159	0	0	6002	6002	0	0	0	6002
WR7KZ	ARC-52	0	0	0	0	0	0	0	0
WR7LZ	TACAMO	0	0	1521	1521	0	0	0	1521

ALLOTMENT		AS OF 0730 MONDAY 08-02-81		CONTINUED		STATUS OF FUNDS REPORT			
F79 APR 8 REPL		DAY 81039 PERCENT OF FY - 35.8				DOLLARS IN THOUSANDS			
ACC	DESCRIPTION	ANNUAL OBLIG PLAN	OBLIG AUTH TO UNOBL BAL	COMMIT AUTH TO UNOBL BAL	OUTSTG COMITS	OUTSTG INITS	OUTSTG TOTAL	TOTAL U C I	
WRN2	APN-141	0	0	0	0	0	0	0	
WRP2	APN-153	0	0	0	0	0	0	0	
WR12	APN-84	0	0	695	695	0	0	695	
WR22	APN-194	0	0	0	0	0	0	0	
WR22	ALQ-128	0	0	1548	1548	0	0	1548	
WR3C	SCW3 MISC	0	0	10493	10493	2	0	10493	
	SUBT SCW3 APA REPL	0	300	29573	29273	2	0	29573	
WR3D	SCW4	0	0	6048	6048	0	108	6156	
WR3A	A7	0	0	4772	4772	0	0	4772	
WR3E	MLW1 MISC	0	0	270	270	0	0	270	
	SUBT MLW1 APA REPL	0	0	11090	11090	0	108	11198	
WRPF	F-14	0	0	33044	33044	0	0	33044	
WR7Y	ARG9-F-14	0	3500	3559	59	0	0	3559	
WR52	CAINS	0	0	3898	3898	0	0	3898	
WR3F	MLW2 MISC	0	0	4	4	0	0	4	
	SUBT MLW2 APA REPL	0	3500	40505	37005	0	0	40505	
WR8P	P3	0	0	9237	9237	0	0	9237	
WR3G	MLW3 MISC	0	0	1661	1661	0	90	1751	
	SUBT MLW3 APA REPL	0	0	10898	10898	0	90	10988	
WR5C	S3	0	26000	25218	782	0	0	25218	
WR3H	MLW4 MISC	0	0	127	127	0	0	127	
	SUBT MLW4 APA REPL	0	26000	25345	655	0	0	25345	
WR8Y	VAST	0	1000	796	204	0	0	796	
WR3J	MLW5 MISC	0	0	627	627	0	0	627	
	SUBT MLW5 APA REPL	0	1000	1423	423	0	0	1423	

ALLOTMENT 179 APR 6 REPL		AS OF 0730 MONDAY 08-02-81 DAY 61034 PERCENT OF FY - 35.8				CONTINUED				STATUS OF FUNDS REPORT DOLLARS IN THOUSANDS			
ACC	DESCRIPTION	ANNUAL OBLIG PLAN	OBLIG AUTH REC'D	UNLIG DATE	UNLIG BAL	OBLIG PLAN PCT	COMMIT AUTH REC'D	TO DATE	UNCOM BAL	OUTSTG COMMIT	OUTSTG INTLS	OUTSTG TOTAL	TOTAL O C I
WR07A	AB	0	0	18037	18037-	-	0	18037	18037-	0	0	0	18037
WR07E	EAG	0	0	22014	22014-	-	0	22014	22014-	0	0	0	22014
WR07K	MLW6 MISC	0	0	127	127-	-	0	127	127-	0	0	0	127
	SUBT MLW6 APA REPL	0	0	40178	40178-	-	0	40178	40178-	0	0	0	40178
WR07E	E2/C2	0	0	1822	1822-	-	0	1822	1822-	0	0	0	1822
WR07E	E2	0	13000	11855	1145	-	13000	11855	1145	0	0	0	11855
WR07L	MLW7 MISC	0	0	180	180-	-	0	180	180-	0	0	0	180
	SUBT MLW7 APA REPL	0	13000	13857	857-	-	13000	13857	857-	0	0	0	13857
WR07A	AV-BA	0	0	1242	1242-	-	0	1242	1242-	0	0	0	1242
WR07M	MLW8 MISC	0	0	0	0	-	0	0	0	0	0	0	0
	SUBT MLW8 APA REPL	0	0	1242	1242-	-	0	1242	1242-	0	0	0	1242
WR07C	P/N PROC	0	181223	4468	176755	-	181223	4468	176755	0	0	0	4468
WR07C	RECLAMATION	0	0	232	232-	-	0	232	232-	0	0	0	232
WR07C	"A" LEDGER	0	0	559	559-	-	0	559	559-	0	0	0	559
WR07M	MOBILIZATION	0	0	7963	7963-	-	0	7963	7963-	0	220	220	8183
WR07B	FIELD	0	295	295	0	-	295	295	0	0	0	0	295
WR07F	MOD FO	13753	13753	13077	676	95.0	13753	13077	676	0	0	0	13077
TOTAL		13753	289071	287849	1222	92.9	289071	287852	1219	3	418	421	208270

ASO FY 81 AND 82 BUDGET PROJECTIONS FOR APN-6 FUNDS WITH
BREAKOUTS FOR MOD INITIAL AND MOD FOLLOW-ON

150

WEAPON/ CATEGORY	TOTAL INITIAL FUNDS	APW-6 1981 INITIAL (In \$ Millions) (Cont'd)			TOTAL RUTAIL	WHEELS/DATE
		CV's	OTHER	TB1's CER's		
SUB TOTAL	101.543	28.368	46.811		79.965	21.598
GSE	20.213				16.144	4.069
RJD	6.964				5.664	1.300
TOTAL	128.720				101.753	26.967

APR-6
FY81 REPLACEMENT (In \$ Millions)

WEAPON/ CATEGORY	TOTAL REPLACEMENT FUNDS	MAGS	12-15a/c 5a/c	CVs	ICV	OTHER	Contractor Norfolk Sigonella Cable Pl J DTS	16-19a/c 12-13a/c	TOTAL RETAIL	WHOLESALE
F14	24,638	-0-		24,638	ICV	-0-		16-19a/c	24,638	
P3C	.630	-0-		-0-		.630		Brunswick	.630	
E2C	4,349	-0-		3,651	ICV (ARPs per)	.698		Miramar	4,349	
CH53E	5,709	.740 1,109	12-15a/c 5a/c	-0-		.613 .616 1,156 .738 .741	Contractor Norfolk Sigonella Cable Pl J DTS	16-19a/c 12-13a/c	5,709	
SUB TOTAL	15,326	1,869		28,289		5,188			15,326	-0-
GSE	34,811								34,811	
MID	72,856								72,856	
SUB TOTAL	142,995								142,995	
Init lat lves	74,484								74,484	
Basic Replen	263,015									263,015
PAR	10,300									10,300
TOTAL	490,794								217,479	273,315

ANH-6

FY82 INITIAL (In \$ Millions)

WEAPON/ CATEGORY	TOTAL INITIAL FUNDS	MIL'S	Cherry Pt 7 a/c	CV's	OTHER		TOTAL RETAIL	WHOLESALE
AGE	4,497	3,794		-0-	-0-		3,794	.703
EAGB	4,606	-0-		2,747	1CV	Whidbey Is 3a/c	4,424	.182
PJC	.760	-0-		-0-	.557	Rotational 9a/c	.604	.096
					.067	9 In-Flight Kils		
					.022	1 TBI		
					.018	1 Module Caddy Kit		
F1A	6,003	-0-		3,139	1CV	Miramar 7a/c	4,580	1,423
					.870	Oceans 12a/c		
E2C	4,373	-0-		2,392	1CV	Miramar 6a/c	4,092	.281
					.241	4 TBIs		
ECL30Q	.118	-0-		-0-	.072	Alameda 4a/c	.072	.046
F10	205,009	12,772	El Toro 12 a/c	47,580	2CVs	Pax River 2a/c	129,191	75,818
					17,471	Lemoore 37a/c		
					20,293	Geoff Field 27a/c		
					6,192	Fallon 24a/c		
					1,225	Subic PMS -		
					9,516	CSPs 1012		
					8,570	TBIs 7		
					3,439	CERA -		
					1,000	Provisioning -		

APN-6
FY82 INITIAL (in \$ millions) (Continued)

WEAPON/ CATEGORY	TOTAL INITIAL FUNDS	MAGs	CVs	OTHER	TOTAL RETAIL	WHOLESALE
SUB TOTAL	225,366	16,566	55,858	74,393	146,817	78,549
GSE	20,909				16,727	4,182
MND	9,810				7,848	1,962
TOTAL	256,085				171,392	84,693

APN-6

FY02 REPLENISHMENT (In \$ Millions)

CATEGORY	TOTAL REPLENISHMENT FUNDS	MAC's	CV's	OTHER	TOTAL RETAIL	WHOLESALE
EAGB	3,500		1 CV @ 6a/c (1CAP pec)	.026	3,500	
E2C	21,541		14,175	7,216	21,541	
F1B	44,664	5,056	E1 Toro 12a/c 2 CV's @ 24a/c	.435 .264 6,115 7,038 2,269 .448 2,691 1,242		
CH5ZE	29,357	3,804 5,701 3,809	Tustin 12-15 a/c Futema 5 a/c Pac-kups	3,153 3,158 5,938 3,796		
SH2s	5,607			.349 5,258		
SUB TOTAL	104,669	18,770	36,975	49,174	104,669	
SH00B (Common Items)	1,811					1,811
USE *	30,242					30,242
MUD **	60,682					60,682

AFN-6
FY82 REPLENISHMENT (In \$ Millions) (Continued)

WEAPON/ CATEGORY	TOTAL REPLENISHMENT FUNDS	MAG.'s	CV's	UTB's	TOTAL RETAIL	WHOLESALE
SUB TOTAL	199,404				199,404	
BASIC REPLENISHMENT	383,487					383,487
TOTAL	582,891				199,404	383,487

APN-6
FY81 INITIAL
MOD

	<u>RETAIL</u>	<u>WHOLESALE</u>
A7 Digital Scan	.445	.112
A7 AM Flaps	.751	.190
E2 Safety Mods	.092	.023
F4 IMP Warning System	.125	.031
H-1 APR39	.090	.023
H46 HH46 A to C CILOP	.020	.005
H53 APR39	.274	.068
P3 DICAS	.719	.061
C130 Tacamo Tip II	2.601	.650
EC130 SLEP	.547	.137
	5.664	1.300

APN-6
FY81 REPLENISHMENT
MOD

A6	Tram	29.602
A6	CAINS/CNI	2.392
A6	AMTI	.096
A6	Arresting Hook	.005
A6	A6E to KA6D	.765
EA6	EA6A Update	.551
EA6	EA6B ALE 41 (Prov)	.034
EA6	EA6B ALE 39	.025
EA6	EA6B ALE 39	.017
A7	A7 ARN-84/ARN-118	.131
A7	A7 FLIR	11.877
A7	A7 ALE 39	.067
AV8	AV8C CILOP	.204
AV8	Emergency Power	.037
F4	F4J to S	1.775
F8	F8 ALE 39	.012
F14	Carbon Brake	.309
F14	Hydr. Aux. Brake	.205
OV10	OV10 ALE 39	.090
H46	CH46E	4.362
H46	H46 ALE 39	.100
H53	H53 ALE 39	.352
H1	Tow Mod	1.030
H2	SH-2 Avionics	9.013
P3	Teletype	.149
P3	TACNAV	2.696
P3	P3 FLIR	1.598
P3	Harpoon	.709
P3	P3B Instr. Update	.176
EP3	EP3 SIFP	1.405
E2	ARPS	3.731
C130	C130 CILOP	.164
C130	KC130 CILOP	.133
Various	ALR 45	1.044
	Total	72.356

APM-6
FY82 INITIAL
MOD

		RETAIL	WHOLESALE
A4	APR-43	.266	.067
OA4	APR-43	.068	.016
A6	Weapon Sys Update	.512	.128
EA6	APS-130	1.320	.330
A7	APR-43	1.407	.352
F4	Alum. Hydr. Lines	.038	.009
F4	APR-43	.863	.216
H53	APP Disc Clutch	.137	.035
H-3	SH-3H	2.584	.645
P-3	IACS	.361	.090
EC130	SLEP	<u>.292</u>	<u>.074</u>
		7.848	1.362

APN-6
FY82 REPLENISHMENT
MOD

A3	ALE 41	.105
A3	ARC 153	.240
A3	CARRIER BASED ESM	.240
A6	TRAM	20.909
A6	CAINS/CNI	3.583
A6	VDI	1.155
A6	LDG. IMPROVEMENTS	.093
A6	WEAPON SYS. IMPR.	.078
A6	A-6E to KA-6D	.319
EA6	EA-6B ALE-39	.031
EA6	EA-6A ALE-39	.029
EA6	EA-6 ASN-92	.652
EA6	EA-6 ASN-123	.385
A7	A-7 ARN-84/118	.073
A7	FLIR	9.195
A7	A-7 ALE-39	.087
A7	DIGITAL SCAN	1.743
A7	AMF	.341
A7	TA to ETA-7	1.000
AV8	AV-8C CILOP	1.316
F4	F4-J TO 5	.433
F4	F-4 DAA	.073
F4	F-4 ARN-118	.465
F8	F-8 ALE-39	.020
F8	F-8 APN-194	.023
F14	CARBON BRAKES	.133
F14	AUX. BRAKE PUMP	.095
H46	H-46 ALE-39	.081
H46	HH-46A TO D	.020
H46	H-46 ARN-118	.064
H46	H-46 APR-39	.003
H53	ELASTOMERIC HEADS	5.054
H53	H-53 ALE-39/APR-39	.387
H2	AVIONICS UPDATE	.611
P3	TACNAV	1.313
P3	IRDS	.725
P3	DICASS/3V	.323
P3	HARPOON	2.295
P3	INSTR. UPDATE	.177
EP3	EP-3 SLEP	1.933
E2	ARPS	2.350
E2	ECP-046	.054
C130	C-130 CLEP	.127
C130	KC-130 SLEP	.916
FEWSG	RA-3 to FEWSG	.433
TOTAL		60.682

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